OIPE JC181 JUL 20 2005 PATENT & TRADEMARK OFFICE

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<110> Guo, Xiaojia

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Pro Glu Arg Pro Ala Ser Ser Ser Thr Arg Gly Ala Ala Gly Leu Asp
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Gly Lys Gly Arg Asp Met Asp Glu Ala Gly Asn His Arg Ser Gln Gln
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Thr Asn Thr Gly Thr Glu Asn Gln Thr Leu His Val Leu Thr Gln Tyr
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Asp Leu Val Ser Ala Tyr Glu Val Asp His Arg Gly Asp Tyr Val Ser
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His Glu Ile Met His His Gln Arg Arg Arg Arg Ala Val Ala Val Ser
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Glu Val Glu Ser Leu His Leu Arg Leu Lys Gly Pro Arg His Asp Phe
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His Met Asp Leu Arg Thr Ser Ser Ser Leu Val Ala Pro Gly Phe Ile
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Val Gln Thr Leu Gly Lys Thr Gly Thr Lys Ser Val Gln Thr Leu Pro
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Pro Glu Asp Phe Cys Phe Tyr Gln Gly Ser Leu Arg Ser His Arg Asn
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Glu Ser Gly His Asn Phe Gly Met Ile His Asp Gly Glu Gly Asn Met
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Cys Lys Lys Ser Glu Gly Asn Ile Met Ser Pro Thr Leu Ala Gly Arg
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Asn Gly Val Phe Ser Trp Ser Pro Cys Ser Arg Gln Tyr Leu His Lys
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Met Leu Asp Phe Lys Lys Asp Ile Cys Lys Ala Leu Trp Cys His Arg
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675 680 685

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690 695 700

Glu Gly Ser Thr Arg Thr Leu Lys Leu Cys Asn Ser Gln Lys Cys Pro
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Arg Asp Ser Val Asp Phe Arg Ala Ala Gln Cys Ala Glu His Asn Ser
725 730 735

Arg Arg Phe Arg Gly Arg His Tyr Lys Trp Lys Pro Gln Asp Leu Cys
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Lys Leu Tyr Cys Ile Ala Glu Gly Phe Asp Phe Phe Phe Ser Leu Ser
755 760 765

Asn Lys Val Lys Asp Gly Thr Pro Cys Ser Glu Asp Ser Arg Asn Val
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Cys Ile Asp Gly Ile Cys Glu Xaa Gly Cys Asp Asn Val Leu Gly Ser
785 790 795 800

Asp Ala Val Glu Asp Val Cys Gly Val Cys Asn Gly Asn Asn Ser Ala
805 810 815

Cys Thr Ile His Arg Gly Leu Tyr Thr Lys His His His Thr Asn His
820 825 830

Tyr His Met Val Thr Ile Pro Ser Gly Ala Arg Ser Ile Arg Ile Tyr
835 840 845

Glu Met Asn Val Ser Thr Ser Tyr Ile Ser Val Arg Asn Ala Leu Arg
850 855 860

Arg Tyr Tyr Leu Asn Gly His Trp Thr Val Asp Trp Pro Gly Arg Tyr
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Lys Phe Ser Gly Thr Thr Phe Asp Tyr Arg Arg Ser Tyr Asn Glu Pro

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Pro Arg Leu Gly Thr Glu Lys Gln Pro Pro Ala Gln Pro Ser Tyr Thr
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Trp Ala Ile Val Arg Ser Glu Cys Ser Val Ser Cys Gly Gly Gly Arg
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35 40 45

Leu Ser Arg Gly Pro Arg Arg Leu Thr Ala Met Ser Pro Leu Phe Ser
50 55 60

Ala Gly Thr Cys Val Arg His Gly Thr Arg Ser Gly Ser Ala Trp Glu
65 70 75 80

Pro Glu Arg Pro Ala Ser Ser Ser Thr Arg Gly Ala Ala Gly Leu Asp
85 90 95

Gly Lys Gly Arg Asp Met Asp Glu Ala Gly Asn His Arg Ser Gln Gln
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Thr Asn Thr Gly Thr Glu Asn Gln Thr Leu His Val Leu Thr Arg Glu
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Tyr Asp Leu Val Ser Ala Tyr Glu Val Asp His Arg Gly Asp Tyr Val
130 135 140

Ser His Glu Ile Met His His Gln Arg Arg Arg Arg Ala Val Ala Val
145 150 155 160

Ser Glu Val Glu Ser Leu His Leu Arg Leu Lys Gly Pro Arg His Asp
165 170 175

Phe His Met Asp Leu Arg Thr Ser Ser Ser Leu Val Ala Pro Gly Phe
180 185 190

Ile Val Gln Thr Leu Gly Lys Thr Gly Thr Lys Ser Val Gln Thr Leu
195 200 205

Pro Pro Glu Asp Phe Cys Phe Tyr Gln Gly Ser Leu Arg Ser His Arg
210 215 220

Asn Ser Pro Ser His Gly Gly Lys Phe Cys Glu Gly Ser Thr Arg Thr
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Leu Lys Leu Cys Asn Ser Gln Lys Cys Pro Arg Asp Ser Val Asp Phe
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Ile Asp Gly Ile Cys Glu Met Pro Gln Pro Pro Lys Glu Asp Leu Phe
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Leu Arg Ser His Arg Asn Glu Glu Leu Asn Val Glu Thr Leu Val Val
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Val Asp Lys Lys Met Met Gln Asn His Gly His Glu Asn Ile Thr Thr
    370                 375                 380

Tyr Val Leu Thr Ile Leu Asn Met Val Ser Ala Leu Phe Lys Asp Gly
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Thr Ile Gly Gly Asn Ile Asn Ile Ala Ile Val Gly Leu Ile Leu Leu
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Glu Asp Glu Gln Asp Ile Cys Lys Ala Leu Trp Cys His Arg Ile Gly
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Arg Lys Cys Glu Thr Lys Phe Met Pro Ala Ala Glu Gly Thr Ile Cys
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Gly His Asp Met Trp Cys Arg Gly Gly Gln Cys Val Lys Tyr Gly Asp
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Glu Gly Pro Lys Pro Thr His Gly His Trp Ser Asp Trp Ser Ser Trp
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Ser Pro Cys Ser Arg Thr Cys Gly Gly Gly Val Ser His Arg Ser Arg
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Phe Arg Gly Arg His Tyr Lys Trp Lys Pro Gln Asp Leu Cys Lys Leu
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Tyr Cys Ile Ala Glu Gly Phe Asp Phe Phe Phe Ser Leu Ser Asn Lys
                565                 570                 575

Val Lys Asp Gly Thr Pro Cys Ser Glu Asp Ser Arg Asn Val Cys Ile
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Asp Gly Ile Cys Glu Gly Cys Asp Asn Val Leu Gly Ser Asp Ala Val
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Val Ser Thr Ser Tyr Ile Ser Val Arg Asn Ala Leu Arg Arg Tyr Tyr
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Gly Thr Thr Phe Asp Tyr Arg Arg Ser Tyr Asn Glu Pro Glu Asn Leu
690 695 700

Ile Ala Thr Gly Pro Thr Asn Glu Thr Leu Ile Val Glu Leu Leu Phe
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Gln Gly Arg Asn Pro Gly Val Ala Trp Glu Tyr Ser Met Pro Arg Leu
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Gly Thr Glu Lys Gln Pro Pro Ala Gln Pro Ser Tyr Thr Trp Ala Ile
740 745 750

Val Arg Ser Glu Cys Ser Val Ser Cys Gly Gly Gly Arg Cys Leu Pro
755 760 765

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35 40 45

Val Ser Glu Val Glu Pro Ala Phe Leu Gln Val Cys Arg Ala Arg Glu
50 55 60

Leu Arg Leu Cys Val Glu Ala Phe Pro Ile Ala Asn Ser Gln Pro Gly
65 70 75 80

Phe Leu Asn Leu Ser Asn Val Arg Ser His Trp Arg Glu Gln His Ala
85 90 95

Ser Lys Arg Ile Ile Thr Asn Ala Met Leu Gly Glu Ser Ala Leu Ala
100 105 110

Ser Thr Arg Lys Ser Asn Cys Val Phe Phe Leu Ser Phe Tyr Phe Phe
115 120 125

Gln Ser Gly Met Ile Arg Thr Glu Glu Ala Asp Tyr Phe Leu Arg Pro

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Leu Pro Ser His Leu Ser Trp Lys Leu Gly Arg Ala Ala Gln Gly Ser
145                 150                 155                 160

Ser Pro Ser His Val Leu Tyr Lys Arg Glu Val Leu Val Thr Ser Arg
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Thr Trp Glu Leu Ala His Gln Pro Leu His Ser Ser Asp Leu Arg Leu
            180                 185                 190

Gly Leu Pro Gln Lys Gln His Phe Cys Gly Arg Arg Lys Lys Tyr Met
        195                 200                 205

Pro Gln Pro Pro Lys Glu Asp Leu Phe Ile Leu Pro Asp Glu Tyr Lys
    210                 215                 220

Ser Cys Leu Arg His Lys Arg Ser Leu Leu Arg Ser His Arg Asn Glu
225                 230                 235                 240

Glu Leu Asn Val Glu Thr Leu Val Val Val Asp Lys Lys Met Met Gln
                245                 250                 255

Asn His Gly His Glu Asn Ile Thr Thr Tyr Val Leu Thr Ile Leu Asn
            260                 265                 270

Met Val Ser Ala Leu Phe Lys Asp Gly Thr Ile Gly Gly Asn Ile Asn
        275                 280                 285

Ile Ala Ile Val Gly Leu Ile Leu Leu Glu Asp Glu Gln Pro Gly Leu
    290                 295                 300

Val Ile Ser His His Ala Asp His Thr Leu Ser Ser Phe Cys Gln Trp
305                 310                 315                 320

Gln Ser Gly Leu Met Gly Lys Asp Gly Thr Arg His Asp His Ala Ile
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Leu Leu Thr Gly Leu Asp Ile Cys Ser Trp Lys Asn Glu Pro Cys Asp
            340                 345                 350

Thr Leu Gly Phe Ala Pro Ile Ser Gly Met Cys Ser Lys Tyr Arg Ser
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Cys Thr Ile Asn Glu Asp Thr Gly Leu Gly Leu Ala Phe Thr Ile Ala
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His Glu Ser Gly His Asn Phe Gly Met Ile His Asp Gly Glu Gly Asn
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Met Cys Lys Lys Ser Glu Gly Asn Ile Met Ser Pro Thr Leu Ala Gly
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Arg Asn Gly Val Phe Ser Trp Ser Pro Cys Ser Arg Gln Tyr Leu His
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Lys Phe Leu Ser Thr Ala Gln Ala Ile Cys Leu Ala Asp Gln Pro Lys
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Pro Val Lys Glu Tyr Lys Tyr Pro Glu Lys Leu Pro Gly Glu Leu Tyr
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Gly Ala Asn Thr Gln Cys Lys Trp Gln Phe Gly Glu Lys Ala Lys Leu
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Cys Met Leu Asp Phe Lys Lys Asp Ile Cys Lys Ala Leu Trp Cys His
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Thr Ile Cys Gly His Glu His Gly Ala Gly Gly Gln Cys Val Lys Tyr
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Gly Asp Glu Gly Pro Lys Pro Thr His Gly His Trp Ser Asp Trp Ser
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Ser Trp Ser Pro Cys Ser Arg Thr Cys Gly Gly Gly Val Ser His Arg
545                 550                 555                 560

Ser Arg Ser Gln Asn Thr His Ser Arg Pro Ser His Gly Gly Lys Phe
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Cys Glu Gly Ser Thr Arg Thr Leu Lys Leu Cys Asn Ser Gln Lys Cys
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Pro Arg Asp Ser Val Asp Phe Arg Ala Ala Gln Cys Ala Glu His Asn
        595                 600                 605

Ser Arg Arg Phe Arg Gly Arg His Tyr Lys Trp Lys Pro Asp Gln Asp
    610                 615                 620

Leu Cys Lys Leu Tyr Cys Ile Ala Glu Gly Phe Asp Phe Phe Phe Ser
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Leu Ser Asn Lys Val Lys Asp Gly Thr Pro Cys Ser Glu Asp Ser Arg
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Asn Val Cys Ile Asp Gly Ile Cys Glu Arg Val Gly Cys Asp Asn Val
            660                 665                 670

Leu Gly Ser Asp Ala Val Glu Asp Val Cys Gly Val Cys Asn Gly Asn
        675                 680                 685

Asn Ser Ala Cys Thr Ile His Arg Gly Leu Tyr Leu Glu Tyr Tyr His
    690                 695                 700

Met Val Thr Ile Pro Ser Gly Ala Arg Ser Ile Arg Ile Tyr Glu Met
705                 710                 715                 720

Asn Val Ser Thr Ser Tyr Ile Ser Val Arg Asn Ala Leu Arg Arg Tyr
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Tyr Leu Asn Gly His Trp Thr Val Asp Trp Pro Gly Arg Tyr Lys Phe
            740                 745                 750

Ser Gly Thr Thr Phe Asp Tyr Arg Arg Ser Tyr Asn Glu Pro Glu Asn
        755                 760                 765

Leu Ile Ala Thr Gly Pro Thr Asn Glu Thr Leu Ile Val Glu Leu Leu
    770                 775                 780

Phe Gln Gly Arg Asn Pro Gly Val Ala Trp Glu Tyr Ser Met Pro Arg
785                 790                 795                 800

Leu Gly Thr Glu Lys Gln Pro Pro Ala Gln Pro Ser Tyr Thr Trp Ala
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Ile Val Arg Ser Glu Cys Ser Val Ser Cys Gly Gly Gly Arg Cys Leu
820 825 830

Pro Val Leu Leu Leu Glu Ala Ala Cys Gln Pro Leu Ala Thr Ala Tyr
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Ile Ala Leu Ala Phe Leu Glu Ser
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Arg Gly Asn Arg Gly Ser Gly Gln Leu Glu Ala Ser Pro Pro Arg Leu
         35                  40                  45

Leu Ser Arg Gly Pro Arg Arg Leu Thr Ala Met Ser Pro Leu Phe Ser
     50                  55                  60

Ala Gly Thr Cys Val Arg His Gly Thr Arg Ser Gly Ser Ala Trp Glu
 65                  70                  75                  80

Pro Glu Arg Pro Ala Ser Ser Ser Thr Arg Gly Ala Ala Gly Leu Asp
                 85                  90                  95

Gly Lys Gly Arg Asp Met Asp Glu Ala Gly Asn His Arg Ser Gln Gln
            100                 105                 110

Thr Asn Thr Gly Thr Glu Asn Gln Thr Leu His Val Leu Thr Gln Tyr
        115                 120                 125

Asp Leu Val Ser Ala Tyr Glu Val Asp His Arg Gly Asp Tyr Val Ser
    130                 135                 140

His Glu Ile Met His His Gln Arg Arg Arg Arg Ala Val Ala Val Ser
145                 150                 155                 160

Glu Val Glu Ser Leu His Leu Arg Leu Lys Gly Pro Arg His Asp Phe
                165                 170                 175

His Met Asp Leu Arg Thr Ser Ser Ser Leu Val Ala Pro Gly Phe Ile
            180                 185                 190

Val Gln Thr Leu Gly Lys Thr Gly Thr Lys Ser Val Gln Thr Leu Pro
        195                 200                 205

Pro Glu Asp Phe Cys Phe Tyr Gln Gly Ser Leu Arg Ser His Arg Asn
    210                 215                 220

Ser Pro Ser His Gly Gly Lys Phe Cys Glu Gly Ser Thr Arg Thr Leu
225                 230                 235                 240

Lys Leu Cys Asn Ser Gln Lys Cys Pro Arg Asp Ser Val Asp Phe Arg
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Ala Ala Gln Cys Ala Glu His Asn Ser Arg Arg Phe Arg Gly Arg His
            260                 265                 270
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Tyr Lys Trp Lys Pro Tyr Thr Gln Val Glu Ala Asp Leu Cys Lys Leu
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Tyr Cys Ile Ala Glu Gly Phe Asp Phe Phe Phe Ser Leu Ser Asn Lys
    290                 295                 300

Val Lys Asp Gly Thr Pro Cys Ser Glu Asp Ser Arg Asn Val Cys Ile
305                 310                 315                 320

Asp Gly Ile Cys Glu Leu Ser Val Val Ser Thr Ser Ala His Met Pro
                325                 330                 335

Gln Pro Pro Lys Glu Asp Leu Phe Ile Leu Pro Asp Glu Tyr Lys Ser
            340                 345                 350

Cys Leu Arg His Lys Arg Ser Leu Leu Arg Ser His Arg Asn Glu Glu
        355                 360                 365

Leu Asn Val Glu Thr Leu Val Val Val Asp Lys Lys Met Met Gln Asn
    370                 375                 380

His Gly His Glu Asn Ile Thr Thr Tyr Val Leu Thr Ile Leu Asn Met
385                 390                 395                 400

Val Ser Ala Leu Phe Lys Asp Gly Leu Met Gly Lys Asp Gly Thr Arg
                405                 410                 415

His Asp His Ala Ile Leu Leu Thr Gly Leu Asp Ile Cys Ser Trp Lys
            420                 425                 430

Asn Glu Pro Cys Asp Thr Leu Gly Phe Ala Pro Ile Ser Gly Met Cys
        435                 440                 445

Ser Lys Tyr Arg Ser Cys Thr Ile Asn Glu Asp Thr Gly Leu Gly Leu
    450                 455                 460

Ala Phe Thr Ile Ala His Glu Ser Gly His Asn Phe Gly Met Ile His
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Asp Gly Glu Gly Asn Met Cys Lys Lys Ser Glu Gly Asn Ile Met Ser
                485                 490                 495

Pro Thr Leu Ala Gly Arg Asn Gly Val Phe Ser Trp Ser Pro Cys Ser
            500                 505                 510

Arg Gln Tyr Leu His Lys Phe Leu Ser Thr Ala Gln Ala Ile Cys Leu
        515                 520                 525

Ala Asp Gln Pro Lys Pro Val Lys Glu Tyr Lys Tyr Pro Glu Lys Leu
    530                 535                 540

Pro Gly Glu Leu Tyr Asp Ala Asn Thr Gln Cys Lys Trp Gln Phe Gly
545                 550                 555                 560

Glu Lys Ala Lys Leu Cys Met Leu Asp Phe Lys Lys Asp Ile Cys Lys
                565                 570                 575

Ala Leu Trp Cys His Arg Ile Gly Arg Lys Cys Glu Thr Lys Phe Met
            580                 585                 590

Pro Ala Ala Glu Gly Thr Ile Cys Gly His Asp Met Trp Cys Arg Gly
        595                 600                 605
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Gly Gln Cys Val Lys Tyr Gly Asp Glu Gly Pro Lys Pro Thr His Gly
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His Trp Ser Asp Trp Ser Ser Trp Ser Pro Cys Ser Arg Thr Cys Gly
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Gly Gly Val Ser His Arg Ser Arg Leu Cys Thr Asn Pro Lys Pro Ser
645 650 655

His Gly Gly Lys Phe Cys Glu Gly Ser Thr Arg Thr Leu Lys Leu Cys
660 665 670

Asn Ser Gln Lys Cys Pro Arg Asp Ser Val Asp Phe Arg Ala Ala Gln
675 680 685

Cys Ala Glu His Asn Ser Arg Arg Phe Arg Gly Arg His Tyr Lys Trp
690 695 700

Lys Pro Tyr Thr Gln Val Glu Asp Gln Asp Leu Cys Lys Leu Tyr Cys
705 710 715 720

Ile Ala Glu Gly Phe Asp Phe Phe Phe Ser Leu Ser Asn Lys Val Lys
725 730 735

Asp Gly Thr Pro Cys Ser Glu Asp Ser Arg Asn Val Cys Ile Asp Gly
740 745 750

Ile Cys Glu Arg Val Gly Cys Asp Asn Val Leu Gly Ser Asp Ala Val
755 760 765

Glu Asp Val Cys Gly Val Cys Asn Gly Asn Asn Ser Ala Cys Thr Ile
770 775 780

His Arg Gly Leu Tyr Thr Lys His His His Thr Asn Gln Tyr Tyr His
785 790 795 800

Met Val Thr Ile Pro Ser Gly Ala Arg Ser Ile Arg Ile Tyr Glu Met
805 810 815

Asn Val Ser Thr Ser Tyr Ile Ser Val Arg Asn Ala Leu Arg Arg Tyr
820 825 830

Tyr Leu Asn Gly His Trp Thr Val Asp Trp Pro Gly Arg Tyr Lys Phe
835 840 845

Ser Gly Thr Thr Phe Asp Tyr Arg Arg Ser Tyr Asn Glu Pro Glu Asn
850 855 860

Leu Ile Ala Thr Gly Pro Thr Asn Glu Thr Leu Ile Val Glu Leu Leu
865 870 875 880

Phe Gln Gly Arg Asn Pro Gly Val Ala Trp Glu Tyr Ser Met Pro Arg
885 890 895

Leu Gly Thr Glu Lys Gln Pro Pro Ala Gln Pro Ser Tyr Thr Trp Ala
900 905 910

Ile Val Arg Ser Glu Cys Ser Val Ser Cys Gly Gly Gly Arg Cys Leu
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Pro Val Leu Leu Leu Glu Ala Ala Cys Gln Pro Ser Ala Thr Ala Tyr
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<210> 10
<211> 1492
<212> PRT
<213> Homo sapiens

<400> 10

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Ala Glu Glu Leu Pro Asn Tyr Leu Val Thr Leu Pro Ala Arg Leu Asn
20 25 30

Phe Pro Ser Val Gln Lys Val Cys Leu Asp Leu Ser Pro Gly Tyr Ser
35 40 45

Asp Val Lys Phe Thr Val Thr Leu Glu Thr Lys Asp Lys Thr Gln Lys
50 55 60

Leu Leu Glu Tyr Ser Gly Leu Lys Lys Arg His Leu His Cys Ile Ser
65 70 75 80

Phe Leu Val Pro Pro Pro Ala Gly Gly Thr Glu Glu Val Ala Thr Ile
85 90 95

Arg Val Ser Gly Val Gly Asn Asn Ile Ser Phe Glu Glu Lys Lys Lys
100 105 110

Val Leu Ile Gln Arg Gln Gly Asn Gly Thr Phe Val Gln Thr Asp Lys
115 120 125

Pro Leu Tyr Thr Pro Gly Gln Gln Val Tyr Phe Arg Ile Val Thr Met
130 135 140

Asp Ser Asn Phe Val Pro Val Asn Asp Lys Tyr Ser Met Val Glu Leu
145 150 155 160

Gln Asp Pro Asn Ser Asn Arg Ile Ala Gln Trp Leu Glu Val Val Pro
165 170 175

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Glu Gln Gly Ile Val Asp Leu Ser Phe Gln Leu Ala Pro Glu Ala Met
            180                 185                 190

Leu Gly Thr Tyr Thr Val Ala Val Ala Glu Gly Lys Thr Phe Gly Thr
        195                 200                 205

Phe Ser Val Glu Glu Tyr Val Leu Ser Pro Phe Leu Leu Leu Leu Ser
    210                 215                 220

Ser Val Leu Pro Lys Phe Lys Val Glu Val Val Glu Pro Lys Glu Leu
225                 230                 235                 240

Ser Thr Val Gln Glu Ser Phe Leu Val Lys Ile Cys Cys Arg Tyr Thr
                245                 250                 255

Tyr Gly Lys Pro Met Leu Gly Ala Val Gln Val Ser Val Cys Gln Lys
            260                 265                 270

Ala Asn Thr Tyr Trp Tyr Arg Glu Val Glu Arg Glu Gln Leu Pro Asp
        275                 280                 285

Lys Cys Arg Asn Leu Ser Gly Gln Thr Asp Lys Thr Gly Cys Phe Ser
    290                 295                 300

Ala Pro Val Asp Met Ala Thr Phe Asp Leu Ile Gly Tyr Ala Tyr Ser
305                 310                 315                 320

His Gln Ile Asn Ile Val Ala Thr Val Val Glu Glu Gly Thr Gly Val
                325                 330                 335

Glu Ala Asn Ala Thr Gln Asn Ile Tyr Ile Ser Pro Gln Met Gly Ser
            340                 345                 350

Met Thr Phe Glu Asp Thr Ser Asn Phe Tyr His Pro Asn Phe Pro Phe
        355                 360                 365

Ser Gly Lys Met Leu Leu Lys Phe Pro Gln Gly Gly Val Leu Pro Cys
    370                 375                 380

Lys Asn His Leu Val Phe Leu Val Ile Tyr Gly Thr Asn Gly Thr Phe
385                 390                 395                 400

Asn Gln Thr Leu Val Thr Asp Asn Asn Gly Leu Ala Pro Phe Thr Leu
                405                 410                 415

Glu Thr Ser Gly Trp Asn Gly Thr Asp Val Ser Leu Glu Gly Lys Phe
            420                 425                 430

Gln Met Glu Asp Leu Val Tyr Asn Pro Glu Gln Val Pro Arg Tyr Tyr
        435                 440                 445

Gln Asn Ala Tyr Leu His Leu Arg Pro Phe Tyr Ser Thr Thr Arg Ser
    450                 455                 460

Phe Leu Gly Ile His Arg Leu Asn Gly Pro Leu Lys Cys Gly Gln Pro
465                 470                 475                 480

Gln Glu Val Leu Val Asp Tyr Tyr Ile Asp Pro Ala Asp Ala Ser Pro
                485                 490                 495

Asp Gln Glu Ile Ser Phe Ser Tyr Tyr Leu Ile Gly Lys Gly Ser Leu
            500                 505                 510
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Val Met Glu Gly Gln Lys His Leu Asn Ser Lys Lys Lys Gly Leu Lys
515 520 525

Ala Ser Phe Ser Leu Ser Leu Thr Phe Thr Ser Arg Leu Ala Pro Asp
530 535 540

Pro Ser Leu Val Ile Tyr Ala Ile Phe Pro Ser Gly Gly Val Val Ala
545 550 555 560

Asp Lys Ile Gln Phe Ser Val Glu Met Cys Phe Asp Asn Gln Gln Leu
565 570 575

Pro Gly Ala Glu Val Glu Leu Gln Leu Gln Ala Ala Pro Gly Ser Leu
580 585 590

Cys Ala Leu Arg Ala Val Asp Glu Ser Val Leu Leu Leu Arg Pro Asp
595 600 605

Arg Glu Leu Ser Asn Arg Ser Val Tyr Gly Met Phe Pro Phe Trp Tyr
610 615 620

Gly His Tyr Pro Tyr Gln Val Ala Glu Tyr Asp Gln Cys Pro Val Ser
625 630 635 640

Gly Pro Trp Asp Phe Pro Gln Pro Leu Ile Asp Pro Met Pro Gln Gly
645 650 655

His Ser Ser Gln Arg Ser Ile Ile Trp Arg Pro Ser Phe Ser Glu Gly
660 665 670

Thr Asp Leu Phe Ser Phe Phe Arg Asp Val Gly Leu Lys Ile Leu Ser
675 680 685

Asn Ala Lys Ile Lys Lys Pro Val Asp Cys Ser His Arg Ser Pro Glu
690 695 700

Tyr Ser Thr Ala Met Gly Gly Gly Gly His Pro Glu Ala Phe Glu Ser
705 710 715 720

Ser Thr Pro Leu His Gln Ala Glu Asp Ser Gln Val Arg Gln Tyr Phe
725 730 735

Pro Glu Thr Trp Leu Trp Asp Leu Phe Pro Ile Gly Asn Ser Gly Lys
740 745 750

Glu Ala Val His Val Thr Val Pro Asp Ala Ile Thr Glu Trp Lys Ala
755 760 765

Met Ser Phe Cys Thr Ser Gln Ser Arg Gly Phe Gly Leu Ser Pro Thr
770 775 780

Val Gly Leu Thr Ala Phe Lys Pro Phe Phe Val Asp Leu Thr Leu Pro
785 790 795 800

Tyr Ser Val Val Arg Gly Glu Ser Phe Arg Leu Thr Ala Thr Ile Phe
805 810 815

Asn Tyr Leu Lys Asp Cys Ile Arg Val Gln Thr Asp Leu Ala Lys Ser
820 825 830

His Glu Tyr Gln Leu Glu Ser Trp Ala Asp Ser Gln Thr Ser Ser Cys
835 840 845

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Leu Cys Ala Asp Asp Ala Lys Thr His His Trp Asn Ile Thr Ala Val
    850                 855                 860

Lys Leu Gly His Ile Asn Phe Thr Ile Ser Thr Lys Ile Leu Asp Ser
865                 870                 875                 880

Asn Glu Pro Cys Gly Gly Gln Lys Gly Phe Val Pro Gln Lys Gly Arg
                885                 890                 895

Ser Asp Thr Leu Ile Lys Pro Val Leu Val Lys Pro Glu Gly Val Leu
            900                 905                 910

Val Glu Lys Thr His Ser Ser Leu Leu Cys Pro Lys Gly Gly Lys Val
        915                 920                 925

Ala Ser Glu Ser Val Ser Leu Glu Leu Pro Val Asp Ile Val Pro Asp
    930                 935                 940

Ser Thr Lys Ala Tyr Val Thr Val Leu Gly Asp Ile Met Gly Thr Ala
945                 950                 955                 960

Leu Gln Asn Leu Asp Gly Leu Val Gln Met Pro Ser Gly Cys Gly Glu
                965                 970                 975

Gln Asn Met Val Leu Phe Ala Pro Ile Ile Tyr Val Leu Gln Tyr Leu
            980                 985                 990

Glu Lys Ala Gly Leu Leu Thr Glu Glu Ile Arg Ser Arg Ala Val Gly
        995                1000                1005

Phe Leu Glu Ile Gly Tyr Gln Lys Glu Leu Met Tyr Lys His Ser Asn
   1010                1015                1020

Gly Ser Tyr Ser Ala Phe Gly Glu Arg Asp Gly Asn Gly Asn Thr Trp
1025                1030                1035                1040

Leu Thr Ala Phe Val Thr Lys Cys Phe Gly Gln Ala Gln Lys Phe Ile
                1045                1050                1055

Phe Ile Asp Pro Lys Asn Ile Gln Asp Ala Leu Lys Trp Met Ala Gly
            1060                1065                1070

Asn Gln Leu Pro Ser Gly Cys Tyr Ala Asn Val Gly Asn Leu Leu His
        1075                1080                1085

Thr Ala Met Lys Gly Gly Val Asp Asp Glu Val Ser Leu Thr Ala Tyr
   1090                1095                1100

Val Thr Ala Ala Leu Leu Glu Met Gly Lys Asp Val Asp Asp Pro Met
1105                1110                1115                1120

Val Ser Gln Gly Leu Arg Cys Leu Lys Asn Ser Ala Thr Ser Thr Thr
                1125                1130                1135

Asn Leu Tyr Thr Gln Ala Leu Leu Ala Tyr Ile Phe Ser Leu Ala Gly
            1140                1145                1150

Glu Met Asp Ile Arg Asn Ile Leu Leu Lys Gln Leu Asp Gln Gln Ala
        1155                1160                1165

Ile Ile Ser Gly Glu Ser Ile Tyr Trp Ser Gln Lys Pro Thr Pro Ser
   1170                1175                1180
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Ser Asn Ala Ser Pro Trp Ser Glu Pro Ala Ala Val Asp Val Glu Leu
1185                1190                1195                1200

Thr Ala Tyr Ala Leu Leu Ala Gln Leu Thr Lys Pro Ser Leu Thr Gln
                1205                1210                1215

Lys Glu Ile Ala Lys Ala Thr Ser Ile Val Ala Trp Leu Ala Lys Gln
            1220                1225                1230

His Asn Ala Tyr Gly Gly Phe Ser Ser Thr Gln Asp Thr Val Val Ala
        1235                1240                1245

Leu Gln Ala Leu Ala Lys Tyr Ala Thr Thr Ala Tyr Met Pro Ser Glu
    1250                1255                1260

Glu Ile Asn Leu Val Val Lys Ser Thr Glu Asn Phe Gln Arg Thr Phe
1265                1270                1275                1280

Asn Ile Gln Ser Val Asn Arg Leu Val Phe Gln Gln Asp Thr Leu Pro
                1285                1290                1295

Asn Val Pro Gly Met Tyr Thr Leu Glu Ala Ser Gly Gln Gly Cys Val
            1300                1305                1310

Tyr Val Gln Thr Val Leu Arg Tyr Asn Ile Leu Pro Pro Thr Asn Met
        1315                1320                1325

Lys Thr Phe Ser Leu Ser Val Glu Ile Gly Lys Ala Arg Cys Glu Gln
    1330                1335                1340

Pro Thr Ser Pro Arg Ser Leu Thr Leu Thr Ile His Thr Ser Tyr Val
1345                1350                1355                1360

Gly Ser Arg Ser Ser Ser Asn Met Ala Ile Val Glu Val Lys Met Leu
                1365                1370                1375

Ser Gly Phe Ser Pro Met Glu Gly Thr Asn Gln Leu Leu Leu Gln Gln
            1380                1385                1390

Pro Leu Val Lys Lys Val Glu Phe Gly Thr Asp Thr Leu Asn Ile Tyr
        1395                1400                1405

Leu Asp Glu Leu Ile Lys Asn Thr Gln Thr Tyr Thr Phe Thr Ile Ser
    1410                1415                1420

Gln Ser Val Leu Val Thr Asn Leu Lys Pro Ala Thr Ile Lys Val Tyr
1425                1430                1435                1440

Asp Tyr Tyr Leu Pro Gly Ser Phe Lys Leu Ser Gln Tyr Thr Ile Val
                1445                1450                1455

Trp Ser Met Asn Asn Asp Ser Ile Val Asp Ser Val Ala Arg His Pro
            1460                1465                1470

Glu Pro Pro Pro Phe Lys Thr Glu Ala Phe Ile Pro Ser Leu Pro Gly
        1475                1480                1485

Ser Val Asn Asn
    1490
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<210> 11
<211> 987

<212> DNA
<213> Homo sapiens

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atgatggggc tgctcatgtt ctctttggga tgttccgtgg agatccggaa gctgtggtcg 180
cacatcagga gaccctgggg cattgctgtg ggactgctct gccagtttgg gctcatgcct 240
tttacagctt atctcctggc cattagcttt tctctgaagc cagtccaagc tattgctgtt 300
ctcatcatgg gctgctgccg gggggcacca tctctaacat tttcaccttc tgggttgatg 360
gagatatgga tctcaggtgc cctgggaatg atgccactct gcatttatct ctacacctgg 420
tcctggagtc ttcagcagaa tctcaccatt ccttatcaga acataggtct gtctttagga 480
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ccaaaacaat ccaaaatcat tctcaaggcc gttgttggtg gggtcctcct tctggtggtc 600
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atcagtttca tctttccttt gattggccat gtcacgggtt ttctgctggc acttttttacc 720
caccagtctt ggcaaaggac cttgcctatc tttttaggtt tagctttcaa gacaccctgt 780
gataccctac tcgcaatgac ttcgtgtcct gaatgttcca ggctcatcta tgccttcatt 840
cctctgctat atggactctt ccagctgata gatggatttc ttattgttga agagagaaca 900
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<210> 12
<211> 326
<212> PRT
<213> Homo sapiens

<400> 12
Met Arg Ala Asn Cys Ser Ser Ser Ser Ala Cys Pro Ala Asn Ser Ser
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Glu Glu Glu Leu Pro Val Gly Leu Glu Val His Gly Asn Leu Glu Leu
20 25 30

Val Phe Thr Val Val Ser Thr Ile Met Met Gly Leu Leu Met Phe Ser
35 40 45

Leu Gly Cys Ser Val Glu Ile Arg Lys Leu Trp Ser His Ile Arg Arg
50 55 60

Pro Trp Gly Ile Ala Val Gly Leu Leu Cys Gln Phe Gly Leu Met Pro
65 70 75 80

Phe Thr Ala Tyr Leu Leu Ala Ile Ser Phe Ser Leu Lys Pro Val Gln
85 90 95

Ala Ile Ala Val Leu Ile Met Gly Cys Cys Arg Gly Ala Pro Ser Leu
100 105 110

Thr Phe Ser Pro Ser Gly Leu Met Glu Ile Trp Ile Ser Gly Ala Leu
115 120 125

Gly Met Met Pro Leu Cys Ile Tyr Leu Tyr Thr Trp Ser Trp Ser Leu
130 135 140

Gln Gln Asn Leu Thr Ile Pro Tyr Gln Asn Ile Gly Leu Ser Leu Gly
145 150 155 160

Ile Thr Leu Val Cys Leu Thr Ile Pro Val Ala Phe Gly Val Tyr Val
165 170 175

Asn Tyr Arg Trp Pro Lys Gln Ser Lys Ile Ile Leu Lys Ala Val Val

180 185 190

Gly Gly Val Leu Leu Leu Val Val Ala Val Ala Gly Val Val Leu Ala
195 200 205

Lys Gly Ser Trp Asn Ser Asp Ile Thr Leu Leu Thr Ile Ser Phe Ile
210 215 220

Phe Pro Leu Ile Gly His Val Thr Gly Phe Leu Leu Ala Leu Phe Thr
225 230 235 240

His Gln Ser Trp Gln Arg Thr Leu Pro Ile Phe Leu Gly Leu Ala Phe
245 250 255

Lys Thr Pro Cys Asp Thr Leu Leu Ala Met Thr Ser Cys Pro Glu Cys
260 265 270

Ser Arg Leu Ile Tyr Ala Phe Ile Pro Leu Leu Tyr Gly Leu Phe Gln
275 280 285

Leu Ile Asp Gly Phe Leu Ile Val Glu Glu Arg Thr Glu Asp Thr Asp
290 295 300

Cys Asp Gly Ser Pro Leu Pro Glu Tyr Phe Thr Glu Val Thr Ile Ile
305 310 315 320

Pro Lys Gln Pro Arg Ile
325

<210> 13
<211> 850
<212> DNA
<213> Homo sapiens

<400> 13
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ttgaccgatt ccgtggagtg caggacattg tggtaggcaa agggactcac tgtctcatcc 180
catggttaca gaaatcaata atctttgact gccgttctca gccacgtaat gtgccagtca 240
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tcatagaagc ggtggaagcc aaacagatag ctcagcagga agcagagagg gccagatttg 600
tggtggaaaa ggctgagcag cagaaaaagg cggccatcat ttctgctgag ggcgactcca 660
aggtggccga gctgatcacc aactcactgg ccacagcagg ggacgccctg atcgagctgc 720
gcaagctgga agctgtggag gacatcacct accagctttt acgctctcgg aacatcacct 780
acctgcgggc agggcagtcc atgcccctgc agctgcgctg gtgagggccc accctgcctg 840
cacctccgag 850

<210> 14
<211> 272
<212> PRT
<213> Homo sapiens

<400> 14
Met Ala Ala Lys Met Phe Glu Phe Ile Gly Lys Phe Gly Leu Ala Leu
1 5 10 15

Val Val Ala Gly Gly Val Val Asn Ser Ala Leu Tyr Ser Val Asp Ala

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                20                  25                  30

Gly His Arg Ala Val Val Phe Asp Arg Phe Arg Gly Val Gln Asp Ile
            35                  40                  45

Val Val Gly Lys Gly Thr His Cys Leu Ile Pro Trp Leu Gln Lys Ser
        50                  55                  60

Ile Ile Phe Asp Cys Arg Ser Gln Pro Arg Asn Val Pro Val Ile Thr
65                  70                  75                  80

Gly Ser Lys Asp Leu Gln Asn Val Asn Leu Thr Leu Arg Ile Ile Phe
                85                  90                  95

Arg Pro Val Ala Ser Gln Leu Pro His Ile Phe Thr Ser Ser Gly Glu
            100                 105                 110

Asp His Asp Glu Arg Val Pro Pro Ser Ile Thr Asn Lys Ile Leu Lys
        115                 120                 125

Ser Val Val Ala Arg Phe Glu Ala Gly Glu Leu Ile Thr Gln Arg Glu
    130                 135                 140

Gln Ile Ser Arg Gln Val Ser Asp Asp Leu Thr Glu Pro Ala Ala Thr
145                 150                 155                 160

Phe Gly Leu Ile Leu Asp Asp Val Ser Leu Thr Tyr Leu Thr Phe Gly
                165                 170                 175

Lys Glu Phe Ile Glu Ala Val Glu Ala Lys Gln Ile Ala Gln Gln Glu
            180                 185                 190

Ala Glu Arg Ala Arg Phe Val Val Glu Lys Ala Glu Gln Gln Lys Lys
        195                 200                 205

Ala Ala Ile Ile Ser Ala Glu Gly Asp Ser Lys Val Ala Glu Leu Ile
    210                 215                 220

Thr Asn Ser Leu Ala Thr Ala Gly Asp Ala Leu Ile Glu Leu Arg Lys
225                 230                 235                 240

Leu Glu Ala Val Glu Asp Ile Thr Tyr Gln Leu Leu Arg Ser Arg Asn
                245                 250                 255

Ile Thr Tyr Leu Arg Ala Gly Gln Ser Met Pro Leu Gln Leu Arg Trp
            260                 265                 270
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<210> 15
<211> 2011
<212> DNA
<213> Homo sapiens

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gtggtgcccg ggccttggca ggaggatgtg gcagatgctg aagagtgtgc tggtcgctgt 180
gggcccttaa tggactgccg ggccttccac tacaacgtga gcagccatgg ttgccaactg 240
ctgccatgga ctcaacactc gccccacacg aggctgcggc gttctgggcg ctgtgacctc 300
ttccagaaga aagactacgt acggacctgc atcatgaaca atggggttgg gtaccggggc 360

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accatggcca cgaccgtggg tggcctgccc tgccaggctt ggagccacaa gttcccaaat 420
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gatggcgacc ccggaggtcc ctggtgctac acaacagacc ctgctgtgcg cttccagagc 540
tgcggcatca aatcctgccg ggaggccgcg tgtgtctggt gcaatggcga ggaataccgc 600
ggcgcggtag accgcacgga gtcagggcgc gagtgccagc gctgggatct tcagcacccg 660
caccagcacc ccttcgagcc gggcaagttc ctcgaccaag gtctggacga caactattgc 720
cggaatcctg acggctccga gcggccatgg tgctacacta cggatccgca gatcgagcga 780
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accaggtgca gtttgagaag tgtggcaaga gggtggatcg gctggatcag cggcgttcca 1440
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gcaaggtcct gctggccagc tgtcttcacg cgtgtctctg tgtttgtgga ctggattcac 1980
aaggtcatga gactgggtta ggcccagcct t                                  2011
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<210> 16
<211> 666
<212> PRT
<213> Homo sapiens

<400> 16

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Met Gly Trp Leu Pro Leu Leu Leu Leu Leu Thr Gln Cys Leu Gly Val
  1               5                  10                  15

Pro Gly Gln Arg Ser Pro Leu Asn Asp Phe Gln Val Leu Arg Gly Thr
             20                  25                  30

Glu Leu Gln His Leu Leu His Ala Val Val Pro Gly Pro Trp Gln Glu
         35                  40                  45

Asp Val Ala Asp Ala Glu Glu Cys Ala Gly Arg Cys Gly Pro Leu Met
     50                  55                  60

Asp Cys Arg Ala Phe His Tyr Asn Val Ser Ser His Gly Cys Gln Leu
 65                  70                  75                  80

Leu Pro Trp Thr Gln His Ser Pro His Thr Arg Leu Arg Arg Ser Gly
                 85                  90                  95

Arg Cys Asp Leu Phe Gln Lys Lys Asp Tyr Val Arg Thr Cys Ile Met
            100                 105                 110

Asn Asn Gly Val Gly Tyr Arg Gly Thr Met Ala Thr Thr Val Gly Gly
        115                 120                 125

Leu Pro Cys Gln Ala Trp Ser His Lys Phe Pro Asn Asp His Lys Tyr
    130                 135                 140
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Thr Pro Thr Leu Arg Asn Gly Leu Glu Glu Asn Phe Cys Arg Asn Pro
145                 150                 155                 160

Asp Gly Asp Pro Gly Gly Pro Trp Cys Tyr Thr Thr Asp Pro Ala Val
                165                 170                 175

Arg Phe Gln Ser Cys Gly Ile Lys Ser Cys Arg Glu Ala Ala Cys Val
            180                 185                 190

Trp Cys Asn Gly Glu Glu Tyr Arg Gly Ala Val Asp Arg Thr Glu Ser
        195                 200                 205

Gly Arg Glu Cys Gln Arg Trp Asp Leu Gln His Pro His Gln His Pro
    210                 215                 220

Phe Glu Pro Gly Lys Phe Leu Asp Gln Gly Leu Asp Asp Asn Tyr Cys
225                 230                 235                 240

Arg Asn Pro Asp Gly Ser Glu Arg Pro Trp Cys Tyr Thr Thr Asp Pro
                245                 250                 255

Gln Ile Glu Arg Glu Phe Cys Asp Leu Pro Arg Cys Gly Ser Glu Ala
            260                 265                 270

Gln Pro Arg Gln Glu Ala Thr Thr Val Ser Cys Phe Arg Gly Lys Gly
        275                 280                 285

Glu Gly Tyr Arg Gly Thr Ala Asn Thr Thr Thr Ala Gly Val Pro Cys
    290                 295                 300

Gln Arg Trp Asp Ala Gln Ile Pro His Gln His Arg Phe Thr Pro Glu
305                 310                 315                 320

Lys Tyr Ala Cys Lys Asp Leu Arg Glu Asn Phe Cys Arg Asn Pro Asp
                325                 330                 335

Gly Ser Glu Ala Pro Trp Cys Phe Thr Leu Arg Pro Gly Met Arg Ala
            340                 345                 350

Ala Phe Cys Tyr Gln Ile Arg Arg Cys Thr Asp Asp Val Arg Pro Gln
        355                 360                 365

Thr Ala Thr Thr Ala Gln Gly Ser Ser Thr Ala Ala Arg Ser Ala Arg
    370                 375                 380

Pro Ala Arg Val Ser Ser Ala Ser Ala Gly Pro Leu Arg Arg Arg Thr
385                 390                 395                 400

Ser Arg Ser Ser Arg Leu Pro Pro Asn Arg Met His Asn Trp Arg Arg
                405                 410                 415

Thr Ser Ala Gly Thr Gln Met Gly Ile Ala Met Gly Pro Gly Ala Thr
            420                 425                 430

Arg Trp Thr Gln Gly Pro His Ser Thr Thr Val Pro Cys Asp Ala Ala
        435                 440                 445

Leu Met Thr Ser Arg His Gln Ser Trp Thr Pro Gln Thr Arg Cys Ser
    450                 455                 460

Leu Arg Ser Val Ala Arg Gly Trp Ile Gly Trp Ile Ser Gly Val Pro
465                 470                 475                 480
```

Ser Cys Ala Trp Leu Gly Ala Ile Arg Ala Thr His Pro Gly Gln Ser
485 490 495

Ala Cys Gly Ile Gly Met Leu Pro Leu Thr Gly Tyr Glu Val Trp Leu
500 505 510

Gly Thr Leu Phe Gln Asn Pro Gln His Gly Glu Pro Ser Leu Gln Arg
515 520 525

Val Pro Val Ala Lys Met Val Cys Gly Pro Ser Gly Ser Gln Leu Val
530 535 540

Leu Leu Lys Leu Glu Arg Ser Val Thr Leu Asn Gln Arg Val Ala Leu
545 550 555 560

Ile Cys Leu Pro Pro Glu Trp Tyr Val Val Pro Pro Gly Thr Lys Cys
565 570 575

Glu Ile Ala Gly Trp Gly Glu Thr Lys Gly Thr Gly Asn Asp Thr Val
580 585 590

Leu Asn Val Ala Leu Leu Asn Val Ile Ser Asn Gln Glu Cys Asn Ile
595 600 605

Lys His Arg Gly Arg Gly Asp Tyr Gly Gly Pro Leu Ala Cys Phe Thr
610 615 620

His Asn Cys Trp Val Leu Glu Gly Ile Ile Ile Pro Asn Arg Val Cys
625 630 635 640

Ala Arg Ser Cys Trp Pro Ala Val Phe Thr Arg Val Ser Val Phe Val
645 650 655

Asp Trp Ile His Lys Val Met Arg Leu Gly
660 665

<210> 17
<211> 634
<212> DNA
<213> Homo sapiens

<400> 17
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gccacagttc agcagctggg aggaagatgg cgcctggtgg acagcaaacg ctttgatgaa 120
tacatgaagg agggaggagt gggaactgct ttgcgaaaaa tggacgcaat ggccaagcca 180
gattgtatca tcacttgtga tggcaaaaac ctcaccataa aaaccgagag cactttgaaa 240
acacagtttt cttgtaccct gggagagaag tttgaagaaa ccacagctga tggcagaaaa 300
actcagactg tgtgcagctt tgcagatggt gcattggttc agcatcagga gtgggatggg 360
aaggaaaaca caataacaag aaaactgaaa gatgggaaat tagtggtgta ctgtgtcatg 420
aacaatgtcg cctgtactcg gatctatgaa aaagtagaat aaaaattcca tcatcacttt 480
ggacaggagt taactaatag aatgatcaag ctcagttcaa tgagcaaatc tccatagtgt 540
ttttttcat tactgtgttc aattatcttt atcacaaacg tttcacatgc agctatttca 600
aagtgtcttg gattaattag gatcatccct ttgg 634

<210> 18
<211> 134
<212> PRT
<213> Homo sapiens

<400> 18
Met Ala Thr Val Gln Gln Leu Gly Gly Arg Trp Arg Leu Val Asp Ser

```
  1               5                  10                  15

Lys Arg Phe Asp Glu Tyr Met Lys Glu Gly Gly Val Gly Thr Ala Leu
            20                  25                  30

Arg Lys Met Asp Ala Met Ala Lys Pro Asp Cys Ile Ile Thr Cys Asp
        35                  40                  45

Gly Lys Asn Leu Thr Ile Lys Thr Glu Ser Thr Leu Lys Thr Gln Phe
    50                  55                  60

Ser Cys Thr Leu Gly Glu Lys Phe Glu Glu Thr Thr Ala Asp Gly Arg
65                  70                  75                  80

Lys Thr Gln Thr Val Cys Ser Phe Ala Asp Gly Ala Leu Val Gln His
                85                  90                  95

Gln Glu Trp Asp Gly Lys Glu Asn Thr Ile Thr Arg Lys Leu Lys Asp
            100                 105                 110

Gly Lys Leu Val Val Tyr Cys Val Met Asn Asn Val Ala Cys Thr Arg
        115                 120                 125

Ile Tyr Glu Lys Val Glu
    130
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<210> 19
<211> 822
<212> DNA
<213> Homo sapiens

<400> 19

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catgaactgg gcatttctgc agggcctgct gagtggcgtg aacaagtact ccacagtgct 60
gagccgcatc tggctgtctg tggtgttcat ctttcgtgtg ctggtgtacg tggtggcagc 120
ggaggaggtg tgggacgatg agcagaagga ctttgtctgc aacaccaagc agcccggctg 180
ccccaacgtc tgctatgacg agttcttccc cgtgtcccac gtgcgcctct gggccctaca 240
gctcatcctg gtcacgtgcc cctcactgct cgtggtcatg cacgtggcct accgcgagga 300
acgcgagcgc aagcaccacc tgaaacacgg gcccaatgcc ccgtccctgt acgacaacct 360
gagcaagaag cggggcggac tgtggtggac gtacttgctg agcctcatct tcaaggccgc 420
cgtggatgct ggcttcctct atatcttcca ccgcctctac aaggattatg acatgccccg 480
cgtggtggcc tgctccgtgg agccttgccc ccacactgtg gactgttaca tctcccggcc 540
cacggagaag aaggtcttca cctacttcat ggtgaccaca gctgccatct gcatcctgct 600
caacctcagt gaagtcttct acctggtggg caagaggtgc atggagatct tcggccccag 660
gcaccggcgg cctcggtgcc gggaatgcct acccgatacg tgcccaccat atgtcctctc 720
ccagggaggg caccctgagg atgggaactc tgtcctaatg aaggctgggt cggccccagt 780
ggatgcaggt gggtatccat aacctgcgag atcagcagat aa                    822
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<210> 20
<211> 266
<212> PRT
<213> Homo sapiens

<400> 20

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Met Asn Trp Ala Phe Leu Gln Gly Leu Leu Ser Gly Val Asn Lys Tyr
  1               5                  10                  15

Ser Thr Val Leu Ser Arg Ile Trp Leu Ser Val Val Phe Ile Phe Arg
            20                  25                  30

Val Leu Val Tyr Val Val Ala Ala Glu Glu Val Trp Asp Asp Glu Gln
        35                  40                  45
```

```
Lys Asp Phe Val Cys Asn Thr Lys Gln Pro Gly Cys Pro Asn Val Cys
     50                  55                  60

Tyr Asp Glu Phe Phe Pro Val Ser His Val Arg Leu Trp Ala Leu Gln
 65                  70                  75                  80

Leu Ile Leu Val Thr Cys Pro Ser Leu Leu Val Val Met His Val Ala
                 85                  90                  95

Tyr Arg Glu Glu Arg Glu Arg Lys His His Leu Lys His Gly Pro Asn
            100                 105                 110

Ala Pro Ser Leu Tyr Asp Asn Leu Ser Lys Lys Arg Gly Gly Leu Trp
        115                 120                 125

Trp Thr Tyr Leu Leu Ser Leu Ile Phe Lys Ala Ala Val Asp Ala Gly
    130                 135                 140

Phe Leu Tyr Ile Phe His Arg Leu Tyr Lys Asp Tyr Asp Met Pro Arg
145                 150                 155                 160

Val Val Ala Cys Ser Val Glu Pro Cys Pro His Thr Val Asp Cys Tyr
                165                 170                 175

Ile Ser Arg Pro Thr Glu Lys Lys Val Phe Thr Tyr Phe Met Val Thr
            180                 185                 190

Thr Ala Ala Ile Cys Ile Leu Leu Asn Leu Ser Glu Val Phe Tyr Leu
        195                 200                 205

Val Gly Lys Arg Cys Met Glu Ile Phe Gly Pro Arg His Arg Arg Pro
    210                 215                 220

Arg Cys Arg Glu Cys Leu Pro Asp Thr Cys Pro Pro Tyr Val Leu Ser
225                 230                 235                 240

Gln Gly Gly His Pro Glu Asp Gly Asn Ser Val Leu Met Lys Ala Gly
                245                 250                 255

Ser Ala Pro Val Asp Ala Gly Gly Tyr Pro
            260                 265
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<210> 21
<211> 546
<212> DNA
<213> Homo sapiens

<400> 21
caatctgaca tgtaactgta aaatcactgg gcccgaggag tgactgtaat taagggctta 60
cgttgaaaat gtataaacag agcttgattc ttaagtttcg aaaattcttc acagtgatgg 120
tgtgaactaa atccacagcc acataataat caaaacagaa aagcaaaaga aagccacttc 180
aggaaatacc acggtcacac ctcagttggc ttcatgctac agattataga aaatatgttg 240
ctgcccgggc caccaatctg ttggttcaca ttactacgtg agcaatgtaa gtgtttgcaa 300
gaagccatcc actatctaaa tatcagatat agatgctcca aagcagctac gtcagtgatg 360
agaacagaga aaatacgtag caacatttca ttaagttgaa ttctaatact taaaaggctc 420
cttttagtac tgacattctg gattttaaaa gttatgttga ccgcatgttc tcactcacaa 480
gtgggagttg aacaatgaga acacacggac acggggaagg gaacatcaca caccagggcc 540
tgtcag 546

<210> 22

<211> 61
<212> PRT
<213> Homo sapiens

<400> 22
Met Leu Gln Ile Ile Glu Asn Met Leu Leu Pro Gly Pro Pro Ile Cys
1 5 10 15

Trp Phe Thr Leu Leu Arg Glu Gln Cys Lys Cys Leu Gln Glu Ala Ile
20 25 30

His Tyr Leu Asn Ile Arg Tyr Arg Cys Ser Lys Ala Ala Thr Ser Val
35 40 45

Met Arg Thr Glu Lys Ile Arg Ser Asn Ile Ser Leu Ser
50 55 60

<210> 23
<211> 2309
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (2196)
<223> Wherein n is an a ot t or c or g.

<400> 23
gagtgagagg tcggacagac tgtggagccg acagactgaa ggacagcggc accgccagac 60
ggccagaaag ttccgccatg agctggggca cggagctgtg ggatcagttc gacagcttag 120
acaagcatac acaatgggga attgacttct tggaaagata tgccaaattt gttaaagaga 180
ggatagaaat tgaacagaac tatgcgaaac aattgagaaa tctggttaag aagtactgcc 240
ccaaacgttc atccaaagat gaagagccac ggtttacctc gtgtgtagcc ttttttaata 300
tccttaatga gttaaatgac tatgcaggac agcgagaagt tgtagcagaa gaaatggcgc 360
acagagtgta tggtgaatta atgagatatg ctcatgatct gaaaactgaa agaaaaatgc 420
atctgcaaga aggacgaaaa gctcaacaat atcttgacat gtgctggaaa cagatgggta 480
atagtaaaaa gaagtttgaa agagaatgta gagaggcaga aaaggcacaa cagagttatg 540
aaagattgga taatgatact aatgcaacca aggcagatgt tgaaaatgcc aaacagcagt 600
tgaatctgcg tacgcatatg gccgatgaaa ataaaaatgc atatgctgca caattacaaa 660
actttaatgg agaacaacat aaacattttt atgtagtgat tcctcagatt tacaagcaac 720
tacaagaaat ggacgaacga aggactatta aactcagtga gtgttacaga ggatttgctg 780
actcagaacg caaagttatt cccatcattt caaaatgttt ggaaggaatg attcttgcag 840
caaaatcagt tgatgaaaga agagactctc aaatggtggt agactccttc aaatctggtt 900
ttgaacctcc aggagacttt ccatttgaag attacagtca acatatatat agaaccattt 960
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aagatttcag tcatctgcca ccagaacaga gacgtaaaaa actacagcag cgcattgatg 1140
aacttaacag agaactacag aaagaatcag accaaaaaga tgcactcaac aaaatgaaag 1200
atgtatatga gaaggatcca caaatggggg atccagggag tttgcagcct aaattagcag 1260
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aagtccgtgg gccaccccag cagcatggtc accacaatga gtttgatgat gaatttgagg 1500
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atgaaggtac tctagcaatg aaagaaggtg aagttctcta cattatagag gaggacaaag 1620
gtgacggatg gacaagagct cggagacaga acggtgaaga aggctacgtt cccacgtcat 1680
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aggctcaaag agagtgagag aagcaagttg catgagtgca tgcagacatg attttttttt 1860
tactaacttc attagcattt ccatacattg tttttaaaaa tcataatacc aacccttaag 1920
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<210> 24
<211> 547
<212> PRT
<213> Homo sapiens

<400> 24

Met Ser Trp Gly Thr Glu Leu Trp Asp Gln Phe Asp Ser Leu Asp Lys
1 5 10 15

His Thr Gln Trp Gly Ile Asp Phe Leu Glu Arg Tyr Ala Lys Phe Val
20 25 30

Lys Glu Arg Ile Glu Ile Glu Gln Asn Tyr Ala Lys Gln Leu Arg Asn
35 40 45

Leu Val Lys Lys Tyr Cys Pro Lys Arg Ser Ser Lys Asp Glu Glu Pro
50 55 60

Arg Phe Thr Ser Cys Val Ala Phe Phe Asn Ile Leu Asn Glu Leu Asn
65 70 75 80

Asp Tyr Ala Gly Gln Arg Glu Val Val Ala Glu Glu Met Ala His Arg
85 90 95

Val Tyr Gly Glu Leu Met Arg Tyr Ala His Asp Leu Lys Thr Glu Arg
100 105 110

Lys Met His Leu Gln Glu Gly Arg Lys Ala Gln Gln Tyr Leu Asp Met
115 120 125

Cys Trp Lys Gln Met Gly Asn Ser Lys Lys Lys Phe Glu Arg Glu Cys
130 135 140

Arg Glu Ala Glu Lys Ala Gln Gln Ser Tyr Glu Arg Leu Asp Asn Asp
145 150 155 160

Thr Asn Ala Thr Lys Ala Asp Val Glu Asn Ala Lys Gln Gln Leu Asn
165 170 175

Leu Arg Thr His Met Ala Asp Glu Asn Lys Asn Ala Tyr Ala Ala Gln
180 185 190

Leu Gln Asn Phe Asn Gly Glu Gln His Lys His Phe Tyr Val Val Ile
195 200 205

Pro Gln Ile Tyr Lys Gln Leu Gln Glu Met Asp Glu Arg Arg Thr Ile
210 215 220

Lys Leu Ser Glu Cys Tyr Arg Gly Phe Ala Asp Ser Glu Arg Lys Val
225 230 235 240

Ile Pro Ile Ile Ser Lys Cys Leu Glu Gly Met Ile Leu Ala Ala Lys
245 250 255

Ser Val Asp Glu Arg Arg Asp Ser Gln Met Val Val Asp Ser Phe Lys
260 265 270

```
Ser Gly Phe Glu Pro Pro Gly Asp Phe Pro Phe Glu Asp Tyr Ser Gln
        275                 280                 285

His Ile Tyr Arg Thr Ile Ser Asp Gly Thr Ile Ser Ala Ser Lys Gln
    290                 295                 300

Glu Ser Gly Lys Met Asp Ala Lys Thr Pro Val Gly Lys Ala Lys Gly
305                 310                 315                 320

Lys Leu Trp Leu Phe Gly Lys Lys Pro Lys Gly Pro Ala Leu Glu Asp
                325                 330                 335

Phe Ser His Leu Pro Pro Glu Gln Arg Arg Lys Lys Leu Gln Gln Arg
            340                 345                 350

Ile Asp Glu Leu Asn Arg Glu Leu Gln Lys Glu Ser Asp Gln Lys Asp
        355                 360                 365

Ala Leu Asn Lys Met Lys Asp Val Tyr Glu Lys Asp Pro Gln Met Gly
    370                 375                 380

Asp Pro Gly Ser Leu Gln Pro Lys Leu Ala Glu Thr Met Asn Asn Ile
385                 390                 395                 400

Asp Arg Leu Arg Met Glu Ile His Lys Asn Glu Ala Trp Leu Ser Glu
                405                 410                 415

Val Glu Gly Lys Thr Gly Gly Arg Gly Asp Arg Arg His Ser Ser Asp
            420                 425                 430

Ile Asn His Leu Val Thr Gln Gly Arg Glu Ser Pro Glu Gly Ser Tyr
        435                 440                 445

Thr Asp Asp Ala Asn Gln Glu Val Arg Gly Pro Pro Gln Gln His Gly
    450                 455                 460

His His Asn Glu Phe Asp Asp Glu Phe Glu Asp Asp Asp Pro Leu Pro
465                 470                 475                 480

Ala Ile Gly His Cys Lys Ala Ile Tyr Pro Phe Asp Gly His Asn Glu
                485                 490                 495

Gly Thr Leu Ala Met Lys Glu Gly Glu Val Leu Tyr Ile Ile Glu Glu
            500                 505                 510

Asp Lys Gly Asp Gly Trp Thr Arg Ala Arg Arg Gln Asn Gly Glu Glu
        515                 520                 525

Gly Tyr Val Pro Thr Ser Tyr Ile Asp Val Thr Leu Glu Lys Asn Ser
    530                 535                 540

Lys Gly Ser
545
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<210> 25
<211> 1787
<212> DNA
<213> Homo sapiens

<400> 25
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tgatgctgga tgaccaaccc cctatggagg cccagtatgc agaggagggc ccaggacctg 120
ggatcttcag agcagagcct ggagaccagc agcatcccat ttctcaggcg gtgtgctggc 180
gttccatgcg acgtggctgt gcagtgctgg gagccctggg gctgctggcc ggtgcaggtg 240
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cgcaagtgag ggatcagcca cgctggctcc tggtctgcca tgagggctgg agccccgccc 480
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gaagggctga tgcatgccag ggagatagcg ggggccccct agtgtgccca gatggggaca 1320
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gatgaactgg gtaagagtat gcctgagttt gtatcccaga tctaccattt cctgtgtcga 1680
cctttggcaa atttctaact ttgttaaacc ttaatttcct gataataacc atgatggcta 1740
cttatatgct attgttatat gctattaaat aagacccgta caatgcc 1787

<210> 26
<211> 1787
<212> DNA
<213> Homo sapiens

<400> 26
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tattatcagg aaattaaggt ttaacaaagt tagaaatttg ccaaaggtcg acacaggaaa 120
tggtagatct gggatacaaa ctcaggcata ctcttaccca gttcatcctt aaactgatag 180
aaatccaatg gattccatgt ttaagcttca cttcttcctc cactcactct ggggaatatg 240
tcctagcacc ctccccagtc cccagcaggg cccgggccta aggggtaagg ttccttgcat 300
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agtgtcatgg atccagtcca gaaactcagc taccttggcg tagacacctg ggtgattggg 420
ctctgcgcag ccacgccccc agctgaccac ccccactagg cgccatgtgt ccccatctgg 480
gcacactagg gggcccccgc tatctccctg gcatgcatca gcccttccgt ccaggtagcc 540
agcgcaaagc atgcgggggg tgagggctcc gctgtacacg caagagctgt tgcagagctg 600
agtgctgagc aggggcacca ccgtgtcctg gagcatatcc gagctgtaag tatggctagg 660
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gagggcgacg tcgtagtcat gattctgggc actgtagagg gggtgtggga taatcctctc 840
caccagagcc ccttggtggg gcctgacggc actgtggctg accagccccg catgaacccg 900
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cagcagcccc agggctccca gcactgcaca gccacgtcgc atggaacgcc agcacaccgc 1620
ctgagaaatg ggatgctgct ggtctccagg ctctgctctg aagatcccag gtcctgggcc 1680
ctcctctgca tactgggcct ccataggggg ttggtcatcc agcatcaggc tcataggggt 1740
cagtggcact gttgtaaagc ctcagggtct actaggcaat gttccgc 1787

<210> 27
<211> 472
<212> PRT
<213> Homo sapiens

<400> 27

Met Ser Leu Met Leu Asp Asp Gln Pro Pro Met Glu Ala Gln Tyr Ala
1 5 10 15

Glu Glu Gly Pro Gly Pro Gly Ile Phe Arg Ala Glu Pro Gly Asp Gln
20 25 30

Gln His Pro Ile Ser Gln Ala Val Cys Trp Arg Ser Met Arg Arg Gly
35 40 45

Cys Ala Val Leu Gly Ala Leu Gly Leu Leu Ala Gly Ala Gly Val Gly
50 55 60

Ser Trp Leu Leu Val Leu Tyr Leu Cys Pro Ala Ala Ser Gln Pro Ile
65 70 75 80

Ser Gly Thr Leu Gln Asp Glu Glu Ile Thr Leu Ser Cys Ser Glu Ala
85 90 95

Ser Ala Glu Glu Ala Leu Leu Pro Ala Leu Pro Lys Thr Val Ser Phe
100 105 110

Arg Ile Asn Ser Glu Asp Phe Leu Leu Glu Ala Gln Val Arg Asp Gln
115 120 125

Pro Arg Trp Leu Leu Val Cys His Glu Gly Trp Ser Pro Ala Leu Gly
130 135 140

Leu Gln Ile Cys Trp Ser Leu Gly His Leu Arg Leu Thr His His Lys
145 150 155 160

Gly Val Asn Leu Thr Asp Ile Lys Leu Asn Ser Ser Gln Glu Phe Ala
165 170 175

Gln Leu Ser Pro Arg Leu Gly Gly Phe Leu Glu Glu Ala Trp Gln Pro
180 185 190

Ser Arg Thr Thr Glu Ala Val Arg Asn Asn Cys Thr Ser Gly Gln Val
195 200 205

Val Ser Leu Arg Cys Ser Glu Cys Gly Ala Arg Pro Leu Ala Ser Arg
210 215 220

Ile Val Gly Gly Gln Ser Val Ala Pro Gly Arg Trp Pro Trp Gln Ala
225 230 235 240

Ser Val Ala Leu Gly Phe Arg His Thr Cys Gly Gly Ser Val Leu Ala
245 250 255

Pro Arg Trp Val Val Thr Ala Ala His Cys Met His Ser Phe Arg Leu
260 265 270

Ala Arg Leu Ser Ser Trp Arg Val His Ala Gly Leu Val Ser His Ser
275 280 285

Ala Val Arg Pro His Gln Gly Ala Leu Val Glu Arg Ile Ile Pro His
290 295 300

Pro Leu Tyr Ser Ala Gln Asn His Asp Tyr Asp Val Ala Leu Leu Arg
305 310 315 320

Leu Gln Thr Ala Leu Asn Phe Ser Asp Thr Val Gly Ala Val Cys Leu
325 330 335

Pro Ala Lys Glu Gln His Phe Pro Lys Gly Ser Arg Cys Trp Val Ser
340 345 350

Gly Trp Gly His Thr His Pro Ser His Thr Tyr Ser Ser Asp Met Leu
355 360 365

Gln Asp Thr Val Val Pro Leu Leu Ser Thr Gln Leu Cys Asn Ser Ser
370 375 380

Cys Val Tyr Ser Gly Ala Leu Thr Pro Arg Met Leu Cys Ala Gly Tyr
385 390 395 400

Leu Asp Gly Arg Ala Asp Ala Cys Gln Gly Asp Ser Gly Gly Pro Leu
405 410 415

Val Cys Pro Asp Gly Asp Thr Trp Arg Leu Val Gly Val Val Ser Trp
420 425 430

Gly Arg Gly Cys Ala Glu Pro Asn His Pro Gly Val Tyr Ala Lys Val
435 440 445

Ala Glu Phe Leu Asp Trp Ile His Asp Thr Ala Gln Val Ser Val Gly
450 455 460

Ala Gly Val Gly Gln Gly Asp Phe
465 470

<210> 28
<211> 2148
<212> DNA
<213> Homo sapiens

<400> 28
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gaccctgagg ctttacaaca gtgctactga cccctatgag cctgatgctg gatgaccaac 180
cccctatgga ggcccagtat gcagaggagg gcccaggacc tgggatcttc agagcagagc 240
ctggagacca gcagcatccc atttctcagg cggtgtgctg gcgttccatg cgacgtggct 300
gtgcagtgct gggagccctg gggctgctgg ccggtgcagg tgttggctca tggctcctag 360
tgctgtatct gtgtcctgct gcctctcagc ccatttccgg gaccttgcag gatgaggaga 420
taactttgag ctgctcagag gccagcgctg aggaagctct gctccctgca ctccccaaaa 480
cagtatcttt cagaataaac agcgaagact tcttgctgga agcgcaagtg agggatcagc 540
cacgctggct cctggtctgc catgagggct ggagccccgc cctggggctg cagatctgct 600
ggagccttgg gcatctcaga ctcactcacc acaagggagt aaacctcact gacatcaaac 660
tcaacagttc ccaggagttt gctcagctct ctcctagact gggaggcttc ctggaggagg 720
cgtggcagcc caggaacaac tgcacttctg gtcaagttgt ttccctcaga tgctctgagt 780
gtggagcgag gcccctggct tcccggatag ttggtgggca gtctgtggct cctgggcgct 840
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cgccacgctg ggtggtgact gctgcacatt gtatgcacag tgcccagaat catgactacg 960
acgtcgccct cctgaggctc cagaccgctc tcaacttctc agacactgtg ggcgctgtgt 1020

gcctgccggc caaggaacag cattttccga agggctcgcg gtgctgggtg tccggctggt 1080
gccacaccca ccctagccat acttacagct cggatatgct ccaggacacg gtggtgcccc 1140
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tccatgacac tgctcaggac tccctcctct gagtcctgct gtttcctcca gtctcactgc 1440
acaccactgc ctcatgcttc ctggggcctc cagcagctcc actaatggag gagaggcagt 1500
agcctccgac acagaacgca tggacctcct actactgtgt gtgaggaaca gtcactaccc 1560
actggccagc cacccagcca acaggtctct cctcttgggc cctgatttca gagtcctctt 1620
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ctgagggatg agggggagga gagaggtagg agctggagat gaagagactg ctagaagcag 1740
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gtgactggga ggtgcccccc gtcccacctt tttcctgtgc tctaggtggg ctaagtgcct 1860
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ccagatgaag cctatgggag tcaggaccct ctccactctc cctctccact ccccttcctg 1980
ttctcacctg gctgtggctg gccctgtgtg gggtgggtac actggaaaac aagaaggttg 2040
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gttattaaag tgatatatgg tcttgaaaaa aaaaaaaaaa aaaaaaaa 2148

<210> 29
<211> 418
<212> PRT
<213> Homo sapiens

<400> 29
Met Ser Leu Met Leu Asp Asp Gln Pro Pro Met Glu Ala Gln Tyr Ala
1 5 10 15

Glu Glu Gly Pro Gly Pro Gly Ile Phe Arg Ala Glu Pro Gly Asp Gln
20 25 30

Gln His Pro Ile Ser Gln Ala Val Cys Trp Arg Ser Met Arg Arg Gly
35 40 45

Cys Ala Val Leu Gly Ala Leu Gly Leu Leu Ala Gly Ala Gly Val Gly
50 55 60

Ser Trp Leu Leu Val Leu Tyr Leu Cys Pro Ala Ala Ser Gln Pro Ile
65 70 75 80

Ser Gly Thr Leu Gln Asp Glu Glu Ile Thr Leu Ser Cys Ser Glu Ala
85 90 95

Ser Ala Glu Glu Ala Leu Leu Pro Ala Leu Pro Lys Thr Val Ser Phe
100 105 110

Arg Ile Asn Ser Glu Asp Phe Leu Leu Glu Ala Gln Val Arg Asp Gln
115 120 125

Pro Arg Trp Leu Leu Val Cys His Glu Gly Trp Ser Pro Ala Leu Gly
130 135 140

Leu Gln Ile Cys Trp Ser Leu Gly His Leu Arg Leu Thr His His Lys
145 150 155 160

Gly Val Asn Leu Thr Asp Ile Lys Leu Asn Ser Ser Gln Glu Phe Ala
165 170 175

Gln Leu Ser Pro Arg Leu Gly Gly Phe Leu Glu Glu Ala Trp Gln Pro
180 185 190

Arg Asn Asn Cys Thr Ser Gly Gln Val Val Ser Leu Arg Cys Ser Glu
195 200 205

Cys Gly Ala Arg Pro Leu Ala Ser Arg Ile Val Gly Gly Gln Ser Val
210 215 220

Ala Pro Gly Arg Trp Pro Trp Gln Ala Ser Val Ala Leu Gly Phe Arg
225 230 235 240

His Thr Cys Gly Gly Ser Val Leu Ala Pro Arg Trp Val Val Thr Ala
245 250 255

Ala His Cys Met His Ser Ala Gln Asn His Asp Tyr Asp Val Ala Leu
260 265 270

Leu Arg Leu Gln Thr Ala Leu Asn Phe Ser Asp Thr Val Gly Ala Val
275 280 285

Cys Leu Pro Ala Lys Glu Gln His Phe Pro Lys Gly Ser Arg Cys Trp
290 295 300

Val Ser Gly Trp Cys His Thr His Pro Ser His Thr Tyr Ser Ser Asp
305 310 315 320

Met Leu Gln Asp Thr Val Val Pro Leu Leu Ser Thr Gln Leu Cys Asn
325 330 335

Ser Ser Cys Val Tyr Ser Gly Ala Leu Thr Pro Arg Met Leu Cys Ala
340 345 350

Gly Tyr Leu Asp Gly Arg Ala Asp Ala Cys Gln Gly Asp Ser Gly Gly
355 360 365

Pro Leu Val Cys Pro Asp Gly Asp Thr Trp Arg Leu Val Gly Val Val
370 375 380

Ser Trp Gly Arg Gly Cys Ala Glu Pro Asn His Pro Gly Val Tyr Ala
385 390 395 400

Lys Val Ala Glu Phe Leu Asp Trp Ile His Asp Thr Ala Gln Asp Ser
405 410 415

Leu Leu

<210> 30
<211> 1593
<212> PRT
<213> Homo sapiens

<400> 30
Met Pro Cys Ala Gln Arg Ser Trp Leu Ala Asn Leu Ser Val Val Ala
1 5 10 15

Gln Leu Leu Asn Phe Gly Ala Leu Cys Tyr Gly Arg Gln Pro Gln Pro
20 25 30

Gly Pro Val Arg Phe Pro Asp Arg Arg Gln Glu His Phe Ile Lys Gly
35 40 45

Leu Pro Glu Tyr His Val Val Gly Pro Val Arg Val Asp Ala Ser Gly
50 55 60

```
His Phe Leu Ser Tyr Gly Leu His Tyr Pro Ile Thr Ser Ser Arg Arg
 65                  70                  75                  80

Lys Arg Asp Leu Asp Gly Ser Glu Asp Trp Val Tyr Tyr Arg Ile Ser
                85                  90                  95

His Glu Glu Lys Asp Leu Phe Phe Asn Leu Thr Val Asn Gln Gly Phe
            100                 105                 110

Leu Ser Asn Ser Tyr Ile Met Glu Lys Arg Tyr Gly Asn Leu Ser His
        115                 120                 125

Val Lys Met Met Ala Ser Ser Ala Pro Leu Cys His Leu Ser Gly Thr
    130                 135                 140

Val Leu Gln Gln Gly Thr Arg Val Gly Thr Ala Ala Leu Ser Ala Cys
145                 150                 155                 160

His Gly Leu Thr Gly Phe Phe Gln Leu Pro His Gly Asp Phe Phe Ile
                165                 170                 175

Glu Pro Val Lys Lys His Pro Leu Val Glu Gly Gly Tyr His Pro His
            180                 185                 190

Ile Val Tyr Arg Arg Gln Lys Val Pro Glu Thr Lys Glu Pro Thr Cys
        195                 200                 205

Gly Leu Lys Asp Ser Val Asn Ile Ser Gln Lys Gln Glu Leu Trp Arg
    210                 215                 220

Glu Lys Trp Glu Arg His Asn Leu Pro Ser Arg Ser Leu Ser Arg Arg
225                 230                 235                 240

Ser Ile Ser Lys Glu Arg Trp Val Glu Thr Leu Val Val Ala Asp Thr
                245                 250                 255

Lys Met Ile Glu Tyr His Gly Ser Glu Asn Val Glu Ser Tyr Ile Leu
            260                 265                 270

Thr Ile Met Asn Met Val Thr Gly Leu Phe His Asn Pro Ser Ile Gly
        275                 280                 285

Asn Ala Ile His Ile Val Val Val Arg Leu Ile Leu Leu Glu Glu Glu
    290                 295                 300

Glu Gln Gly Leu Lys Ile Val His His Ala Glu Lys Thr Leu Ser Ser
305                 310                 315                 320

Phe Cys Lys Trp Gln Lys Ser Ile Asn Pro Lys Ser Asp Leu Asn Pro
                325                 330                 335

Val His His Asp Val Ala Val Leu Leu Thr Arg Lys Asp Ile Cys Ala
            340                 345                 350

Gly Phe Asn Arg Pro Cys Glu Thr Leu Gly Leu Ser His Leu Ser Gly
        355                 360                 365

Met Cys Gln Pro His Arg Ser Cys Asn Ile Asn Glu Asp Ser Gly Leu
    370                 375                 380

Pro Leu Ala Phe Thr Ile Ala His Glu Leu Gly His Ser Phe Gly Ile
385                 390                 395                 400
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Gln His Asp Gly Lys Glu Asn Asp Cys Glu Pro Val Gly Arg His Pro
                405                 410                 415

Tyr Ile Met Ser Arg Gln Leu Gln Tyr Asp Pro Thr Pro Leu Thr Trp
            420                 425                 430

Ser Lys Cys Ser Glu Glu Tyr Ile Thr Arg Phe Leu Asp Arg Gly Trp
        435                 440                 445

Gly Phe Cys Leu Asp Asp Ile Pro Lys Lys Lys Gly Leu Lys Ser Lys
    450                 455                 460

Val Ile Ala Pro Gly Val Ile Tyr Asp Val His His Gln Cys Gln Leu
465                 470                 475                 480

Gln Tyr Gly Pro Asn Ala Thr Phe Cys Gln Glu Val Glu Asn Val Cys
                485                 490                 495

Gln Thr Leu Trp Cys Ser Val Lys Gly Phe Cys Arg Ser Lys Leu Asp
            500                 505                 510

Ala Ala Ala Asp Gly Thr Gln Cys Gly Glu Lys Lys Trp Cys Met Ala
        515                 520                 525

Gly Lys Cys Ile Thr Val Gly Lys Lys Pro Glu Ser Ile Pro Gly Gly
    530                 535                 540

Trp Gly Arg Trp Ser Pro Trp Ser His Cys Ser Arg Thr Cys Gly Ala
545                 550                 555                 560

Gly Val Gln Ser Ala Glu Arg Leu Cys Asn Asn Pro Glu Pro Lys Phe
                565                 570                 575

Gly Gly Lys Tyr Cys Thr Gly Glu Arg Lys Arg Tyr Arg Leu Cys Asn
            580                 585                 590

Val His Pro Cys Arg Ser Glu Ala Pro Thr Phe Arg Gln Met Gln Cys
        595                 600                 605

Ser Glu Phe Asp Thr Val Pro Tyr Lys Asn Glu Leu Tyr His Trp Phe
    610                 615                 620

Pro Ile Phe Asn Pro Ala His Pro Cys Glu Leu Tyr Cys Arg Pro Ile
625                 630                 635                 640

Asp Gly Gln Phe Ser Glu Lys Met Leu Asp Ala Val Ile Asp Gly Thr
                645                 650                 655

Pro Cys Phe Glu Gly Gly Asn Ser Arg Asn Val Cys Ile Asn Gly Ile
            660                 665                 670

Cys Lys Met Val Gly Cys Asp Tyr Glu Ile Asp Ser Asn Ala Thr Glu
        675                 680                 685

Asp Arg Cys Gly Val Cys Leu Gly Asp Gly Ser Ser Cys Gln Thr Val
    690                 695                 700

Arg Lys Met Phe Lys Gln Lys Glu Gly Ser Gly Tyr Val Asp Ile Gly
705                 710                 715                 720

Leu Ile Pro Lys Gly Ala Arg Asp Ile Arg Val Met Glu Ile Glu Gly
                725                 730                 735
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Ala Gly Asn Phe Leu Ala Ile Arg Ser Glu Asp Pro Glu Lys Tyr Tyr
            740                 745                 750

Leu Asn Gly Gly Phe Ile Ile Gln Trp Asn Gly Asn Tyr Lys Leu Ala
        755                 760                 765

Gly Thr Val Phe Gln Tyr Asp Arg Lys Gly Asp Leu Glu Lys Leu Met
    770                 775                 780

Ala Thr Gly Pro Thr Asn Glu Ser Val Trp Ile Gln Leu Leu Phe Gln
785                 790                 795                 800

Val Thr Asn Pro Gly Ile Lys Tyr Glu Tyr Thr Ile Gln Lys Asp Gly
                805                 810                 815

Leu Asp Asn Asp Val Glu Gln Met Tyr Phe Trp Gln Tyr Gly His Trp
            820                 825                 830

Thr Glu Cys Ser Val Thr Cys Gly Thr Gly Ile Arg Arg Gln Thr Ala
        835                 840                 845

His Cys Ile Lys Lys Gly Arg Gly Met Val Lys Ala Thr Phe Cys Asp
    850                 855                 860

Pro Glu Thr Gln Pro Asn Gly Arg Gln Lys Lys Cys His Glu Lys Ala
865                 870                 875                 880

Cys Pro Pro Arg Trp Trp Ala Gly Glu Trp Glu Ala Cys Ser Ala Thr
                885                 890                 895

Cys Gly Pro His Gly Glu Lys Lys Arg Thr Val Leu Cys Ile Gln Thr
            900                 905                 910

Met Val Ser Asp Glu Gln Ala Leu Pro Pro Thr Asp Cys Gln His Leu
        915                 920                 925

Leu Lys Pro Lys Thr Leu Leu Ser Cys Asn Arg Asp Ile Leu Cys Pro
    930                 935                 940

Ser Asp Trp Thr Val Gly Asn Trp Ser Glu Cys Ser Val Ser Cys Gly
945                 950                 955                 960

Gly Gly Val Arg Ile Arg Ser Val Thr Cys Ala Lys Asn His Asp Glu
                965                 970                 975

Pro Cys Asp Val Thr Arg Lys Pro Asn Ser Arg Ala Leu Cys Gly Leu
            980                 985                 990

Gln Gln Cys Pro Ser Ser Arg Arg Val Leu Lys Pro Asn Lys Gly Thr
        995                1000                1005

Ile Ser Asn Gly Lys Asn Pro Pro Thr Leu Lys Pro Val Pro Pro Pro
   1010                1015                1020

Thr Ser Arg Pro Arg Met Leu Thr Thr Pro Thr Gly Pro Glu Ser Met
1025                1030                1035                1040

Ser Thr Ser Thr Pro Ala Ile Ser Ser Pro Ser Pro Thr Thr Ala Ser
                1045                1050                1055

Lys Glu Gly Asp Leu Gly Gly Lys Gln Trp Gln Asp Ser Ser Thr Gln
            1060                1065                1070
```

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Pro Glu Leu Ser Ser Arg Tyr Leu Ile Ser Thr Gly Ser Thr Ser Gln
       1075                1080                1085

Pro Ile Leu Thr Ser Gln Ser Leu Ser Ile Gln Pro Ser Glu Glu Asn
   1090                1095                1100

Val Ser Ser Ser Asp Thr Gly Pro Thr Ser Glu Gly Gly Leu Val Ala
1105                1110                1115                1120

Thr Thr Thr Ser Gly Ser Gly Leu Ser Ser Ser Arg Asn Pro Ile Thr
                1125                1130                1135

Trp Pro Val Thr Pro Phe Tyr Asn Thr Leu Thr Lys Gly Pro Glu Met
            1140                1145                1150

Glu Ile His Ser Gly Ser Gly Glu Glu Arg Glu Gln Pro Glu Asp Lys
       1155                1160                1165

Asp Glu Ser Asn Pro Val Ile Trp Thr Lys Ile Arg Val Pro Gly Asn
   1170                1175                1180

Asp Ala Pro Val Glu Ser Thr Glu Met Pro Leu Ala Pro Pro Leu Thr
1185                1190                1195                1200

Pro Asp Leu Ser Arg Glu Ser Trp Trp Pro Pro Phe Ser Thr Val Met
                1205                1210                1215

Glu Gly Leu Leu Pro Ser Gln Arg Pro Thr Thr Ser Glu Thr Gly Thr
            1220                1225                1230

Pro Arg Val Glu Gly Met Val Thr Glu Lys Pro Ala Asn Thr Leu Leu
       1235                1240                1245

Pro Leu Gly Gly Asp His Gln Pro Glu Pro Ser Gly Lys Thr Ala Asn
   1250                1255                1260

Arg Asn His Leu Lys Leu Pro Asn Asn Met Asn Gln Thr Lys Ser Ser
1265                1270                1275                1280

Glu Pro Val Leu Thr Glu Glu Asp Ala Thr Ser Leu Ile Thr Glu Gly
                1285                1290                1295

Phe Leu Leu Asn Ala Ser Asn Tyr Lys Gln Leu Thr Asn Gly His Gly
            1300                1305                1310

Ser Ala His Trp Ile Val Gly Asn Trp Ser Glu Cys Ser Thr Thr Cys
       1315                1320                1325

Gly Leu Gly Ala Tyr Trp Lys Arg Val Glu Cys Thr Thr Gln Met Asp
   1330                1335                1340

Ser Asp Cys Ala Ala Ile Gln Arg Pro Asp Pro Ala Lys Arg Cys His
1345                1350                1355                1360

Leu Arg Pro Cys Ala Gly Trp Lys Val Gly Asn Trp Ser Lys Cys Ser
                1365                1370                1375

Arg Asn Cys Ser Gly Gly Phe Lys Ile Arg Glu Ile Gln Cys Val Asp
            1380                1385                1390

Ser Arg Asp His Arg Asn Leu Arg Pro Phe His Cys Gln Phe Leu Ala
       1395                1400                1405
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Gly Ile Pro Pro Pro Leu Ser Met Ser Cys Asn Pro Glu Pro Cys Glu
   1410                1415                1420

Ala Trp Gln Val Glu Pro Trp Ser Gln Cys Ser Arg Ser Cys Gly Gly
1425                1430                1435                1440

Gly Val Gln Glu Arg Gly Val Phe Cys Pro Gly Gly Leu Cys Asp Trp
                1445                1450                1455

Thr Lys Arg Pro Thr Ser Thr Met Ser Cys Asn Glu His Leu Cys Cys
            1460                1465                1470

His Trp Ala Thr Gly Asn Trp Asp Leu Cys Ser Thr Ser Cys Gly Gly
        1475                1480                1485

Gly Phe Gln Lys Arg Ile Val Gln Cys Val Pro Ser Glu Gly Asn Lys
   1490                1495                1500

Thr Glu Asp Gln Asp Gln Cys Leu Cys Asp His Lys Pro Arg Pro Pro
1505                1510                1515                1520

Glu Phe Lys Lys Cys Asn Gln Gln Ala Cys Lys Lys Ser Ala Asp Leu
                1525                1530                1535

Leu Cys Thr Lys Asp Lys Leu Ser Ala Ser Phe Cys Gln Thr Leu Lys
            1540                1545                1550

Ala Met Lys Lys Cys Ser Val Pro Thr Val Arg Ala Glu Cys Cys Phe
        1555                1560                1565

Ser Cys Pro Gln Thr His Ile Thr His Thr Gln Arg Gln Arg Arg Gln
   1570                1575                1580

Arg Leu Leu Gln Lys Ser Lys Glu Leu
1585                1590


<210> 31
<211> 1077
<212> PRT
<213> Homo sapiens

<400> 31
Arg Ser Gln Asp Glu Phe Leu Ser Ser Leu Glu Ser Tyr Glu Ile Ala
  1               5                  10                  15

Phe Pro Thr Arg Val Asp His Asn Gly Ala Leu Leu Ala Phe Ser Pro
            20                  25                  30

Pro Pro Pro Arg Arg Gln Arg Arg Gly Thr Gly Ala Thr Ala Glu Ser
        35                  40                  45

Arg Leu Phe Tyr Lys Val Ala Ser Pro Ser Thr His Phe Leu Leu Asn
    50                  55                  60

Leu Thr Arg Ser Ser Arg Leu Leu Ala Gly His Val Ser Val Glu Tyr
65                  70                  75                  80

Trp Thr Arg Glu Gly Leu Ala Trp Gln Arg Ala Ala Arg Pro His Cys
                85                  90                  95

Leu Tyr Ala Gly His Leu Gln Gly Gln Ala Ser Ser Ser His Val Ala
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                100                 105                 110

Ile Ser Thr Cys Gly Gly Leu His Gly Leu Ile Val Ala Asp Glu Glu
        115                 120                 125

Glu Tyr Leu Ile Glu Pro Leu His Gly Gly Pro Lys Gly Ser Arg Ser
    130                 135                 140

Pro Glu Glu Ser Gly Pro His Val Val Tyr Lys Arg Ser Ser Leu Arg
145                 150                 155                 160

His Pro His Leu Asp Thr Ala Cys Gly Val Arg Asp Glu Lys Pro Trp
                165                 170                 175

Lys Gly Arg Pro Trp Trp Leu Arg Thr Leu Lys Pro Pro Pro Ala Arg
            180                 185                 190

Pro Leu Gly Asn Glu Thr Glu Arg Gly Gln Pro Gly Leu Lys Arg Ser
        195                 200                 205

Val Ser Arg Glu Arg Tyr Val Glu Thr Leu Val Val Ala Asp Lys Met
    210                 215                 220

Met Val Ala Tyr His Gly Arg Arg Asp Val Glu Gln Tyr Val Leu Ala
225                 230                 235                 240

Ile Met Asn Ile Val Ala Lys Leu Phe Gln Asp Ser Ser Leu Gly Ser
                245                 250                 255

Thr Val Asn Ile Leu Val Thr Arg Leu Ile Leu Leu Thr Glu Asp Gln
            260                 265                 270

Pro Thr Leu Glu Ile Thr His His Ala Gly Lys Ser Leu Asp Ser Phe
        275                 280                 285

Cys Lys Trp Gln Lys Ser Ile Val Asn His Ser Gly His Gly Asn Ala
    290                 295                 300

Ile Pro Glu Asn Gly Val Ala Asn His Asp Thr Ala Val Leu Ile Thr
305                 310                 315                 320

Arg Tyr Asp Ile Cys Ile Tyr Lys Asn Lys Pro Cys Gly Thr Leu Gly
                325                 330                 335

Leu Ala Pro Val Gly Gly Met Cys Glu Arg Glu Arg Ser Cys Ser Val
            340                 345                 350

Asn Glu Asp Ile Gly Leu Pro Gln Ala Phe Thr Ile Ala His Glu Ile
        355                 360                 365

Gly His Thr Phe Gly Met Asn His Asp Gly Val Gly Asn Ser Cys Gly
    370                 375                 380

Ala Arg Gly Gln Asp Pro Ala Lys Leu Met Ala Ala His Ile Thr Met
385                 390                 395                 400

Lys Thr Asn Pro Phe Val Trp Ser Ser Cys Asn Arg Asp Tyr Ile Thr
                405                 410                 415

Ser Phe Leu Asp Ser Gly Leu Gly Leu Cys Leu Asn Asn Arg Pro Pro
            420                 425                 430

Arg Gln Asp Phe Val Tyr Pro Thr Val Ala Pro Gly Gln Ala Tyr Asp
```

```
          435                 440                 445

Ala Asp Glu Gln Cys Arg Phe Gln His Gly Val Lys Ser Arg Gln Cys
    450                 455                 460

Lys Tyr Gly Glu Val Cys Ser Glu Leu Trp Cys Leu Ser Lys Ser Asn
465                 470                 475                 480

Arg Cys Ile Thr Asn Ser Ile Pro Ala Ala Glu Gly Thr Leu Cys Gln
                485                 490                 495

Thr His Thr Ile Asp Lys Gly Trp Cys Tyr Lys Arg Val Cys Val Pro
            500                 505                 510

Phe Gly Ser Arg Pro Glu Gly Val Asp Gly Ala Trp Gly Pro Trp Thr
        515                 520                 525

Pro Trp Gly Asp Cys Ser Arg Thr Cys Gly Gly Gly Val Ser Ser Ser
    530                 535                 540

Ser Arg His Cys Asp Ser Pro Arg Pro Thr Ile Gly Gly Lys Tyr Cys
545                 550                 555                 560

Leu Gly Glu Arg Arg Arg His Arg Ser Cys Asn Thr Asp Asp Cys Pro
                565                 570                 575

Pro Gly Ser Gln Asp Phe Arg Glu Val Gln Cys Ser Glu Phe Asp Ser
            580                 585                 590

Ile Pro Phe Arg Gly Lys Phe Tyr Lys Trp Lys Thr Tyr Arg Gly Gly
        595                 600                 605

Gly Val Lys Ala Cys Ser Leu Thr Ser Leu Ala Glu Gly Phe Asn Phe
    610                 615                 620

Tyr Thr Glu Arg Ala Ala Ala Val Val Asp Gly Thr Pro Cys Arg Pro
625                 630                 635                 640

Asp Thr Val Asp Ile Cys Val Ser Gly Glu Cys Lys His Val Gly Cys
                645                 650                 655

Asp Arg Val Leu Gly Ser Asp Leu Arg Glu Asp Lys Cys Arg Val Cys
            660                 665                 670

Gly Gly Asp Gly Ser Ala Cys Glu Thr Ile Glu Gly Val Phe Ser Pro
        675                 680                 685

Ala Ser Pro Gly Ala Gly Tyr Glu Asp Val Val Trp Ile Pro Lys Gly
    690                 695                 700

Ser Val His Ile Phe Ile Gln Asp Leu Asn Leu Ser Leu Ser His Leu
705                 710                 715                 720

Ala Leu Lys Gly Asp Gln Glu Ser Leu Leu Leu Glu Gly Leu Pro Gly
                725                 730                 735

Thr Pro Gln Pro His Arg Leu Pro Leu Ala Gly Thr Thr Phe Gln Leu
            740                 745                 750

Arg Gln Gly Pro Asp Gln Val Gln Ser Leu Glu Ala Leu Gly Pro Ile
        755                 760                 765

Asn Ala Ser Leu Ile Val Met Val Leu Ala Arg Thr Glu Leu Pro Ala
```

```
    770                 775                 780

Leu Arg Tyr Arg Phe Asn Ala Pro Ile Ala Arg Asp Ser Leu Pro Pro
785                 790                 795                 800

Tyr Ser Trp His Tyr Ala Pro Trp Thr Lys Cys Ser Ala Gln Cys Ala
                805                 810                 815

Gly Gly Ser Gln Val Gln Ala Val Glu Cys Arg Asn Gln Leu Asp Ser
            820                 825                 830

Ser Ala Val Ala Pro His Tyr Cys Ser Ala His Ser Lys Leu Pro Lys
        835                 840                 845

Arg Gln Arg Ala Cys Asn Thr Glu Pro Cys Pro Pro Asp Trp Val Val
    850                 855                 860

Gly Asn Trp Ser Leu Cys Ser Arg Ser Cys Asp Ala Gly Val Arg Ser
865                 870                 875                 880

Arg Ser Val Val Cys Gln Arg Arg Val Ser Ala Ala Glu Glu Lys Ala
                885                 890                 895

Leu Asp Asp Ser Ala Cys Pro Gln Pro Arg Pro Pro Val Leu Glu Ala
            900                 905                 910

Cys His Gly Pro Thr Cys Pro Pro Glu Trp Ala Ala Leu Asp Trp Ser
        915                 920                 925

Glu Cys Thr Pro Ser Cys Gly Pro Gly Leu Arg His Arg Val Val Leu
    930                 935                 940

Cys Lys Ser Ala Asp His Arg Ala Thr Leu Pro Pro Ala His Cys Ser
945                 950                 955                 960

Pro Ala Ala Lys Pro Pro Ala Thr Met Arg Cys Asn Leu Arg Arg Cys
                965                 970                 975

Pro Pro Ala Arg Trp Val Ala Gly Glu Trp Gly Glu Cys Ser Ala Gln
            980                 985                 990

Cys Gly Val Gly Gln Arg Gln Arg Ser Val Arg Cys Thr Ser His Thr
        995                1000                1005

Gly Gln Ala Ser His Glu Cys Thr Glu Ala Leu Arg Pro Pro Thr Thr
   1010                1015                1020

Gln Gln Cys Glu Ala Lys Cys Asp Ser Pro Thr Pro Gly Asp Gly Pro
1025                1030                1035                1040

Glu Glu Cys Lys Asp Val Asn Lys Val Ala Tyr Cys Pro Leu Val Leu
                1045                1050                1055

Lys Phe Gln Phe Cys Ser Arg Ala Tyr Phe Arg Gln Met Cys Cys Lys
            1060                1065                1070

Thr Cys Gln Gly His
        1075
```

<210> 32
<211> 997
<212> PRT

<213> Homo sapiens

<400> 32

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Met Pro Gly Gly Pro Ser Pro Arg Ser Pro Ala Pro Leu Leu Arg Pro
  1               5                  10                  15

Leu Leu Leu Leu Leu Cys Ala Leu Ala Pro Gly Ala Pro Gly Pro Ala
            20                  25                  30

Pro Gly Arg Ala Thr Glu Gly Arg Ala Ala Leu Asp Ile Val His Pro
        35                  40                  45

Val Arg Val Asp Ala Gly Gly Ser Phe Leu Ser Tyr Glu Leu Trp Pro
    50                  55                  60

Arg Ala Leu Arg Lys Arg Asp Val Ser Val Arg Arg Asp Ala Pro Ala
65                  70                  75                  80

Phe Tyr Glu Leu Gln Tyr Arg Gly Arg Glu Leu Arg Phe Asn Leu Thr
                85                  90                  95

Ala Asn Gln His Leu Leu Ala Pro Gly Phe Val Ser Glu Thr Arg Arg
            100                 105                 110

Arg Gly Gly Leu Gly Arg Ala His Ile Arg Ala His Thr Pro Ala Cys
        115                 120                 125

His Leu Leu Gly Glu Val Gln Asp Pro Glu Leu Glu Gly Gly Leu Ala
    130                 135                 140

Ala Ile Ser Ala Cys Asp Gly Leu Lys Gly Val Phe Gln Leu Ser Asn
145                 150                 155                 160

Glu Asp Tyr Phe Ile Glu Pro Leu Asp Ser Ala Pro Ala Arg Pro Gly
                165                 170                 175

His Ala Gln Pro His Val Val Tyr Lys Arg Gln Ala Pro Glu Arg Leu
            180                 185                 190

Ala Gln Arg Gly Asp Ser Ser Ala Pro Ser Thr Cys Gly Val Gln Val
        195                 200                 205

Tyr Pro Glu Leu Glu Ser Arg Arg Glu Arg Trp Glu Gln Arg Gln Gln
    210                 215                 220

Trp Arg Arg Pro Arg Leu Arg Arg Leu His Gln Arg Ser Val Ser Lys
225                 230                 235                 240

Glu Lys Trp Val Glu Thr Leu Val Val Ala Asp Ala Lys Met Val Glu
                245                 250                 255

Tyr His Gly Gln Pro Gln Val Glu Ser Tyr Val Leu Thr Ile Met Asn
            260                 265                 270

Met Val Ala Gly Leu Phe His Asp Pro Ser Ile Gly Asn Pro Ile His
        275                 280                 285

Ile Thr Ile Val Arg Leu Val Leu Leu Glu Asp Glu Glu Glu Asp Leu
    290                 295                 300

Lys Ile Thr His His Ala Asp Asn Thr Leu Lys Ser Phe Cys Lys Trp
305                 310                 315                 320
```

Gln Lys Ser Ile Asn Met Lys Gly Asp Ala His Pro Leu His His Asp
325 330 335

Thr Ala Ile Leu Leu Thr Arg Lys Asp Leu Cys Ala Ala Met Asn Arg
340 345 350

Pro Cys Glu Thr Leu Gly Leu Ser His Val Ala Gly Met Cys Gln Pro
355 360 365

His Arg Ser Cys Ser Ile Asn Glu Asp Thr Gly Leu Pro Leu Ala Phe
370 375 380

Thr Val Ala His Glu Leu Gly His Ser Phe Gly Ile Gln His Asp Gly
385 390 395 400

Ser Gly Asn Asp Cys Glu Pro Val Gly Lys Arg Pro Phe Ile Met Ser
405 410 415

Pro Gln Leu Leu Tyr Asp Ala Ala Pro Leu Thr Trp Ser Arg Cys Ser
420 425 430

Arg Gln Tyr Ile Thr Arg Phe Leu Asp Arg Gly Trp Gly Leu Cys Leu
435 440 445

Asp Asp Pro Pro Ala Lys Asp Ile Ile Asp Phe Pro Ser Val Pro Pro
450 455 460

Gly Val Leu Tyr Asp Val Ser His Gln Cys Arg Leu Gln Tyr Gly Ala
465 470 475 480

Tyr Ser Ala Phe Cys Glu Asp Met Asp Asn Val Cys His Thr Leu Trp
485 490 495

Cys Ser Val Gly Thr Thr Cys His Ser Lys Leu Asp Ala Ala Val Asp
500 505 510

Gly Thr Arg Cys Gly Glu Asn Lys Trp Cys Leu Ser Gly Glu Cys Val
515 520 525

Pro Val Gly Phe Arg Pro Glu Ala Val Asp Gly Gly Trp Ser Gly Trp
530 535 540

Ser Ala Trp Ser Ile Cys Ser Arg Ser Cys Gly Met Gly Val Gln Ser
545 550 555 560

Ala Glu Arg Gln Cys Thr Gln Pro Thr Pro Lys Tyr Lys Gly Arg Tyr
565 570 575

Cys Val Gly Glu Arg Lys Arg Phe Arg Leu Cys Asn Leu Gln Ala Cys
580 585 590

Pro Ala Gly Arg Pro Ser Phe Arg His Val Gln Cys Ser His Phe Asp
595 600 605

Ala Met Leu Tyr Lys Gly Gln Leu His Thr Trp Val Pro Val Val Asn
610 615 620

Asp Val Asn Pro Cys Glu Leu His Cys Arg Pro Ala Asn Glu Tyr Phe
625 630 635 640

Ala Lys Lys Leu Arg Asp Ala Val Val Asp Gly Thr Pro Cys Tyr Gln
645 650 655

Val Arg Ala Ser Arg Asp Leu Cys Ile Asn Gly Ile Cys Lys Asn Val
660 665 670

Gly Cys Asp Phe Glu Ile Asp Ser Gly Ala Met Glu Asp Arg Cys Gly
675 680 685

Val Cys His Gly Asn Gly Ser Thr Cys His Thr Val Ser Gly Thr Phe
690 695 700

Glu Glu Ala Glu Gly Leu Gly Tyr Val Asp Val Gly Leu Ile Pro Ala
705 710 715 720

Gly Ala Arg Glu Ile Arg Ile Gln Glu Val Ala Glu Ala Ala Asn Phe
725 730 735

Leu Ala Leu Arg Ser Glu Asp Pro Glu Lys Tyr Phe Leu Asn Gly Gly
740 745 750

Trp Thr Ile Gln Trp Asn Gly Asp Tyr Gln Val Ala Gly Thr Thr Phe
755 760 765

Thr Tyr Ala Arg Arg Gly Asn Trp Glu Asn Leu Thr Ser Pro Gly Pro
770 775 780

Thr Lys Glu Pro Val Trp Ile Gln Val Pro Ala Ser Arg Gly Pro Gly
785 790 795 800

Gly Gly Ser Arg Gly Gly Val Pro Arg Pro Ser Thr Leu His Gly Arg
805 810 815

Ser Arg Pro Gly Gly Val Ser Pro Gly Ser Val Thr Glu Pro Gly Ser
820 825 830

Glu Pro Gly Pro Pro Ala Ala Ala Ser Thr Ser Val Ser Pro Ser Leu
835 840 845

Lys Trp Pro Asn Leu Val Ala Ala Val His Arg Gly Gly Trp Gly Gln
850 855 860

Ala Pro Leu Gly Leu Gly Gly Trp Arg Arg His Leu Val Leu Met Gly
865 870 875 880

Pro Arg Leu Pro Thr Gln Leu Leu Phe Gln Glu Ser Asn Pro Gly Val
885 890 895

His Tyr Glu Tyr Thr Ile His Arg Glu Ala Gly Gly His Asp Glu Val
900 905 910

Pro Pro Pro Val Phe Ser Trp His Tyr Gly Pro Trp Thr Lys Cys Thr
915 920 925

Val Thr Cys Gly Arg Gly Glu Lys Trp Gly Arg His Ser Pro Thr Cys
930 935 940

Arg Gly Leu Val Ser Gly Gln Gly His Trp Leu Gln Leu Pro Ala His
945 950 955 960

Cys Trp Ala Thr Thr Gly Leu Glu Val Cys Phe Ser Glu Pro Gln Phe
965 970 975

Ser Ile Cys Glu Met Arg Leu Ala Ile Ala Leu Cys Pro Arg Pro Ala
980 985 990

Gly Arg Val His Gly
995

<210> 33
<211> 854
<212> PRT
<213> Homo sapiens

<400> 33
Met Met Val Ala Tyr His Gly Arg Arg Asp Val Glu Gln Tyr Val Leu
1 5 10 15

Ala Ile Met Asn Ile Val Ala Lys Leu Phe Gln Asp Ser Ser Leu Gly
20 25 30

Ser Thr Val Asn Ile Leu Val Thr Arg Leu Ile Leu Leu Thr Glu Asp
35 40 45

Gln Pro Thr Leu Glu Ile Thr His His Ala Gly Lys Ser Leu Asp Ser
50 55 60

Phe Cys Lys Trp Gln Lys Ser Ile Val Asn His Ser Gly His Gly Asn
65 70 75 80

Ala Ile Pro Glu Asn Gly Val Ala Asn His Asp Thr Ala Val Leu Ile
85 90 95

Thr Arg Tyr Asp Ile Cys Ile Tyr Lys Asn Lys Pro Cys Gly Thr Leu
100 105 110

Gly Leu Ala Pro Val Gly Gly Met Cys Glu Arg Glu Arg Ser Cys Ser
115 120 125

Val Asn Glu Asp Ile Gly Leu Ala Thr Ala Phe Thr Ile Ala His Glu
130 135 140

Ile Gly His Thr Phe Gly Met Asn His Asp Gly Val Gly Asn Ser Cys
145 150 155 160

Gly Ala Arg Gly Gln Asp Pro Ala Lys Leu Met Ala Ala His Ile Thr
165 170 175

Met Lys Thr Asn Pro Phe Val Trp Ser Ser Cys Ser Arg Asp Tyr Ile
180 185 190

Thr Ser Phe Leu Asp Ser Gly Leu Gly Leu Cys Leu Asn Asn Arg Pro
195 200 205

Pro Arg Gln Asp Phe Val Tyr Pro Thr Val Ala Pro Gly Gln Ala Tyr
210 215 220

Asp Ala Asp Glu Gln Cys Arg Phe Gln His Gly Val Lys Ser Arg Gln
225 230 235 240

Cys Lys Tyr Gly Glu Val Cys Ser Glu Leu Trp Cys Leu Ser Lys Ser
245 250 255

Asn Arg Cys Ile Thr Asn Ser Ile Pro Ala Ala Glu Gly Thr Leu Cys
260 265 270

Gln Thr His Thr Ile Asp Lys Gly Trp Cys Tyr Lys Arg Val Cys Val
275 280 285

```
Pro Phe Gly Ser Arg Pro Glu Gly Val Asp Gly Ala Trp Gly Pro Trp
    290                 295                 300

Thr Pro Trp Gly Asp Cys Ser Arg Thr Cys Gly Gly Gly Val Ser Ser
305                 310                 315                 320

Ser Ser Arg His Cys Asp Ser Pro Arg Pro Thr Ile Gly Gly Lys Tyr
                325                 330                 335

Cys Leu Gly Glu Arg Arg Arg His Arg Ser Cys Asn Thr Asp Asp Cys
            340                 345                 350

Pro Pro Gly Ser Gln Asp Phe Arg Glu Val Gln Cys Ser Glu Phe Asp
        355                 360                 365

Ser Ile Pro Phe Arg Gly Lys Phe Tyr Lys Trp Lys Thr Tyr Arg Gly
    370                 375                 380

Gly Gly Val Lys Ala Cys Ser Leu Thr Cys Leu Ala Glu Gly Phe Asn
385                 390                 395                 400

Phe Tyr Thr Glu Arg Ala Ala Ala Val Val Asp Gly Thr Pro Cys Arg
                405                 410                 415

Pro Asp Thr Val Asp Ile Cys Val Ser Gly Glu Cys Lys His Val Gly
            420                 425                 430

Cys Asp Arg Val Leu Gly Ser Asp Leu Arg Glu Asp Lys Cys Arg Val
        435                 440                 445

Cys Gly Gly Asp Gly Ser Ala Cys Glu Thr Ile Glu Gly Val Phe Ser
    450                 455                 460

Pro Ala Ser Pro Gly Ala Gly Tyr Glu Asp Val Val Trp Ile Pro Lys
465                 470                 475                 480

Gly Ser Val His Ile Phe Ile Gln Asp Leu Asn Leu Ser Leu Ser His
                485                 490                 495

Leu Ala Leu Lys Gly Asp Gln Glu Ser Leu Leu Leu Glu Gly Leu Pro
            500                 505                 510

Gly Thr Pro Gln Pro His Arg Leu Pro Leu Ala Gly Thr Thr Phe Gln
        515                 520                 525

Leu Arg Gln Gly Pro Asp Gln Val Gln Ser Leu Glu Ala Leu Gly Pro
    530                 535                 540

Ile Asn Ala Ser Leu Ile Val Met Val Leu Ala Arg Thr Glu Leu Pro
545                 550                 555                 560

Ala Leu Arg Tyr Arg Phe Asn Ala Pro Ile Ala Arg Asp Ser Leu Pro
                565                 570                 575

Pro Tyr Ser Trp His Tyr Ala Pro Trp Thr Lys Cys Ser Ala Gln Cys
            580                 585                 590

Ala Gly Gly Ser Gln Val Gln Ala Val Glu Cys Arg Asn Gln Leu Asp
        595                 600                 605

Ser Ser Ala Val Ala Pro His Tyr Cys Ser Ala His Ser Lys Leu Pro
    610                 615                 620
```

```
Lys Arg Gln Arg Ala Cys Asn Thr Glu Pro Cys Pro Pro Asp Trp Val
625                 630                 635                 640

Val Gly Asn Trp Ser Leu Cys Ser Arg Ser Cys Asp Ala Gly Val Arg
                645                 650                 655

Ser Arg Ser Val Val Cys Gln Arg Arg Val Ser Ala Ala Glu Glu Lys
            660                 665                 670

Ala Leu Asp Asp Ser Ala Cys Pro Gln Pro Arg Pro Pro Val Leu Glu
        675                 680                 685

Ala Cys His Gly Pro Thr Cys Pro Pro Glu Trp Ala Ala Leu Asp Trp
    690                 695                 700

Ser Glu Cys Thr Pro Ser Cys Gly Pro Gly Leu Arg His Arg Val Val
705                 710                 715                 720

Leu Cys Lys Ser Ala Asp His Arg Ala Thr Leu Pro Pro Ala His Cys
                725                 730                 735

Ser Pro Ala Ala Lys Pro Pro Ala Thr Met Arg Cys Asn Leu Arg Arg
            740                 745                 750

Cys Pro Pro Ala Arg Trp Val Ala Gly Glu Trp Gly Glu Cys Ser Ala
        755                 760                 765

Gln Cys Gly Val Gly Gln Arg Gln Arg Ser Val Arg Cys Thr Ser His
    770                 775                 780

Thr Gly Gln Ala Ser His Glu Cys Thr Glu Ala Leu Arg Pro Pro Thr
785                 790                 795                 800

Thr Gln Gln Cys Glu Ala Lys Cys Asp Ser Pro Thr Pro Gly Asp Gly
                805                 810                 815

Pro Glu Glu Cys Lys Asp Val Asn Lys Val Ala Tyr Cys Pro Leu Val
            820                 825                 830

Leu Lys Phe Gln Phe Cys Ser Arg Ala Tyr Phe Arg Gln Met Cys Cys
        835                 840                 845

Lys Thr Cys His Gly His
    850
```

<210> 34
<211> 860
<212> PRT
<213> Homo sapiens

<220>
<221> VARIANT
<222> (450)
<223> Wherein Xaa is any amino acid.

<400> 34

```
Met Glu Ile Leu Trp Lys Thr Leu Thr Trp Ile Leu Ser Leu Ile Met
  1               5                  10                  15

Ala Ser Ser Glu Phe His Ser Asp His Arg Leu Ser Tyr Ser Ser Gln
            20                  25                  30
```

```
Glu Glu Phe Leu Thr Tyr Leu Glu His Tyr Gln Leu Thr Ile Pro Ile
          35                  40                  45

Arg Val Asp Gln Asn Gly Ala Phe Leu Ser Phe Thr Val Lys Asn Asp
      50                  55                  60

Lys His Ser Arg Arg Arg Arg Ser Met Asp Pro Ile Asp Pro Gln Gln
 65                  70                  75                  80

Ala Val Ser Lys Leu Phe Phe Lys Leu Ser Ala Tyr Gly Lys His Phe
                 85                  90                  95

His Leu Asn Leu Thr Leu Asn Thr Asp Phe Val Ser Lys His Phe Thr
            100                 105                 110

Val Glu Tyr Trp Gly Lys Asp Gly Pro Gln Trp Lys His Asp Phe Leu
        115                 120                 125

Asp Asn Cys His Tyr Thr Gly Tyr Leu Gln Asp Gln Arg Ser Thr Thr
    130                 135                 140

Lys Val Ala Leu Ser Asn Cys Val Gly Leu His Gly Val Ile Ala Thr
145                 150                 155                 160

Glu Asp Glu Glu Tyr Phe Ile Glu Pro Leu Lys Asn Thr Thr Glu Asp
                165                 170                 175

Ser Lys His Phe Ser Tyr Glu Asn Gly His Pro His Val Ile Tyr Lys
            180                 185                 190

Lys Ser Ala Leu Gln Gln Arg His Leu Tyr Asp His Ser His Cys Gly
        195                 200                 205

Val Ser Asp Phe Thr Arg Ser Gly Lys Pro Trp Trp Leu Asn Asp Thr
    210                 215                 220

Ser Thr Val Ser Tyr Ser Leu Pro Ile Asn Asn Thr His Ile His His
225                 230                 235                 240

Arg Gln Lys Arg Ser Val Ser Ile Glu Arg Phe Val Glu Thr Leu Val
                245                 250                 255

Val Ala Asp Lys Met Met Val Gly Tyr His Gly Arg Lys Asp Ile Glu
            260                 265                 270

His Tyr Ile Leu Ser Val Met Asn Ile Val Ala Lys Leu Tyr Arg Asp
        275                 280                 285

Ser Ser Leu Gly Asn Val Val Asn Ile Ile Val Ala Arg Leu Ile Val
    290                 295                 300

Leu Thr Glu Asp Gln Pro Asn Leu Glu Ile Asn His His Ala Asp Lys
305                 310                 315                 320

Ser Leu Asp Ser Phe Cys Lys Trp Gln Lys Ser Ile Leu Ser His Gln
                325                 330                 335

Ser Asp Gly Asn Thr Ile Pro Glu Asn Gly Ile Ala His His Asp Asn
            340                 345                 350

Ala Val Leu Ile Thr Arg Tyr Asp Ile Cys Thr Tyr Lys Asn Lys Pro
        355                 360                 365
```

Cys Gly Thr Leu Gly Leu Ala Ser Val Ala Gly Met Cys Glu Pro Glu
370 375 380

Arg Ser Cys Ser Ile Asn Glu Asp Ile Gly Leu Gly Ser Ala Phe Thr
385 390 395 400

Ile Ala His Glu Ile Val His Asn Phe Gly Met Asn His Asp Gly Ile
405 410 415

Gly Asn Ser Cys Gly Arg Lys Val Met Lys Gln Gln Asn Tyr Gly Ser
420 425 430

Ser His Tyr Cys Glu Tyr Gln Ser Phe Phe Leu Val Cys Leu Gln Ser
435 440 445

Arg Xaa His His Gln Leu Phe Arg Glu Val Cys Arg Glu Leu Trp Cys
450 455 460

Leu Ser Lys Ser Asn Arg Cys Val Thr Asn Ser Ile Pro Ala Ala Glu
465 470 475 480

Gly Thr Leu Cys Gln Thr Gly Asn Ile Glu Lys Gly Trp Cys Tyr Gln
485 490 495

Gly Asp Cys Val Pro Phe Gly Thr Trp Pro Gln Ser Ile Asp Gly Gly
500 505 510

Trp Gly Pro Trp Ser Leu Trp Gly Glu Cys Ser Arg Thr Cys Gly Gly
515 520 525

Gly Val Ser Ser Ser Leu Arg His Cys Asp Ser Pro Ala Pro Ser Gly
530 535 540

Gly Gly Lys Tyr Cys Leu Gly Glu Arg Lys Arg Tyr Arg Ser Cys Asn
545 550 555 560

Thr Asp Pro Cys Pro Leu Gly Ser Arg Asp Phe Arg Glu Lys Gln Cys
565 570 575

Ala Asp Phe Asp Asn Met Pro Phe Arg Gly Lys Tyr Tyr Asn Trp Lys
580 585 590

Pro Tyr Thr Gly Gly Gly Val Lys Pro Cys Ala Leu Asn Cys Leu Ala
595 600 605

Glu Gly Tyr Asn Phe Tyr Thr Glu Arg Ala Pro Ala Val Ile Asp Gly
610 615 620

Thr Gln Cys Asn Ala Asp Ser Leu Asp Ile Cys Ile Asn Gly Glu Cys
625 630 635 640

Lys His Val Gly Cys Asp Asn Ile Leu Gly Ser Asp Ala Arg Glu Asp
645 650 655

Arg Cys Arg Val Cys Gly Gly Gly Gly Ser Thr Cys Asp Ala Ile Glu
660 665 670

Gly Phe Phe Asn Asp Ser Leu Pro Arg Gly Gly Tyr Met Glu Val Val
675 680 685

Gln Ile Pro Arg Gly Ser Val His Ile Glu Val Arg Glu Val Ala Met
690 695 700

```
Ser Lys Asn Tyr Ile Ala Leu Lys Ser Glu Gly Asp Asp Tyr Tyr Ile
705                 710                 715                 720

Asn Gly Ala Trp Thr Ile Asp Trp Pro Arg Lys Phe Asp Val Ala Gly
                725                 730                 735

Thr Ala Phe His Tyr Lys Arg Pro Thr Asp Glu Pro Glu Ser Leu Glu
            740                 745                 750

Ala Leu Gly Pro Thr Ser Glu Asn Leu Ile Val Met Val Leu Leu Gln
        755                 760                 765

Glu Gln Asn Leu Gly Ile Arg Tyr Lys Phe Asn Val Pro Ile Thr Arg
    770                 775                 780

Thr Gly Ser Gly Asp Asn Glu Val Gly Phe Thr Trp Asn His Gln Pro
785                 790                 795                 800

Trp Ser Glu Cys Ser Ala Thr Cys Ala Gly Gly Lys Met Pro Thr Arg
                805                 810                 815

Gln Pro Thr Gln Arg Ala Arg Trp Arg Thr Lys His Ile Leu Ser Tyr
            820                 825                 830

Ala Leu Cys Leu Leu Lys Lys Leu Ile Gly Asn Ile Ser Cys Arg Phe
        835                 840                 845

Ala Ser Ser Cys Asn Leu Ala Lys Glu Thr Leu Leu
    850                 855                 860
```

<210> 35
<211> 936
<212> PRT
<213> Homo sapiens

<400> 35

```
Arg Leu Leu Ile Tyr Ala Val Leu Pro Thr Gly Asp Val Ile Gly Asp
  1                 5                  10                  15

Ser Ala Lys Tyr Asp Val Glu Asn Cys Leu Ala Asn Lys Val Asp Leu
             20                  25                  30

Ser Phe Ser Pro Ser Gln Ser Leu Pro Ala Ser His Ala His Leu Arg
         35                  40                  45

Val Thr Ala Ala Pro Gln Ser Val Cys Ala Leu Arg Ala Val Asp Gln
     50                  55                  60

Ser Val Leu Leu Met Lys Pro Asp Ala Glu Leu Ser Ala Ser Ser Val
 65                  70                  75                  80

Tyr Asn Leu Leu Pro Glu Lys Asp Leu Thr Gly Phe Pro Gly Pro Leu
                 85                  90                  95

Asn Asp Gln Asp Asn Glu Asp Cys Ile Asn Arg His Asn Val Tyr Ile
            100                 105                 110

Asn Gly Ile Thr Tyr Thr Pro Val Ser Ser Thr Asn Glu Lys Asp Met
        115                 120                 125

Tyr Ser Phe Leu Glu Asp Met Gly Leu Lys Ala Phe Thr Asn Ser Lys
```

130 135 140

Ile Arg Lys Pro Lys Met Cys Pro Gln Leu Gln Gln Tyr Glu Met His
145 150 155 160

Gly Pro Glu Gly Leu Arg Val Gly Phe Tyr Glu Ser Asp Val Met Gly
165 170 175

Arg Gly His Ala Arg Leu Val His Val Glu Glu Pro His Thr Glu Thr
180 185 190

Val Arg Lys Tyr Phe Pro Glu Thr Trp Ile Trp Asp Leu Val Val Val
195 200 205

Asn Ser Ala Gly Val Ala Glu Val Gly Val Thr Val Pro Asp Thr Ile
210 215 220

Thr Glu Trp Lys Ala Gly Ala Phe Cys Leu Ser Glu Asp Ala Gly Leu
225 230 235 240

Gly Ile Ser Ser Thr Ala Ser Leu Arg Ala Phe Gln Pro Phe Phe Val
245 250 255

Glu Leu Thr Met Pro Tyr Ser Val Ile Arg Gly Glu Ala Phe Thr Leu
260 265 270

Lys Ala Thr Val Leu Asn Tyr Leu Pro Lys Cys Ile Arg Val Ser Val
275 280 285

Gln Leu Glu Ala Ser Pro Ala Phe Leu Ala Val Pro Val Glu Lys Glu
290 295 300

Gln Ala Pro His Cys Ile Cys Ala Asn Gly Arg Gln Thr Val Ser Trp
305 310 315 320

Ala Val Thr Pro Lys Ser Leu Gly Asn Val Asn Phe Thr Val Ser Ala
325 330 335

Glu Ala Leu Glu Ser Gln Glu Leu Cys Gly Thr Glu Val Pro Ser Val
340 345 350

Pro Glu His Gly Arg Lys Asp Thr Val Ile Lys Pro Leu Leu Val Glu
355 360 365

Pro Glu Gly Leu Glu Lys Glu Thr Thr Phe Asn Ser Leu Leu Cys Pro
370 375 380

Ser Gly Gly Glu Val Ser Glu Glu Leu Ser Leu Lys Leu Pro Pro Asn
385 390 395 400

Val Val Glu Glu Ser Ala Arg Ala Ser Val Ser Val Leu Gly Asp Ile
405 410 415

Leu Gly Ser Ala Met Gln Asn Thr Gln Asn Leu Leu Gln Met Pro Tyr
420 425 430

Gly Cys Gly Glu Gln Asn Met Val Leu Phe Ala Pro Asn Ile Tyr Val
435 440 445

Leu Asp Tyr Leu Asn Glu Thr Gln Gln Leu Thr Pro Glu Ile Lys Ser
450 455 460

Lys Ala Ile Gly Tyr Leu Asn Thr Gly Tyr Gln Arg Gln Leu Asn Tyr

```
465                 470                 475                 480

Lys His Tyr Asp Gly Ser Tyr Ser Thr Phe Gly Glu Arg Tyr Gly Arg
                485                 490                 495

Asn Gln Gly Asn Thr Trp Leu Thr Ala Phe Val Leu Lys Thr Phe Ala
            500                 505                 510

Gln Ala Arg Ala Tyr Ile Phe Ile Asp Glu Ala His Ile Thr Gln Ala
        515                 520                 525

Leu Ile Trp Leu Ser Gln Arg Gln Lys Asp Asn Gly Cys Phe Arg Ser
    530                 535                 540

Ser Gly Ser Leu Leu Asn Asn Ala Ile Lys Gly Gly Val Glu Asp Glu
545                 550                 555                 560

Val Thr Leu Ser Ala Tyr Ile Thr Ile Ala Leu Leu Glu Ile Pro Leu
                565                 570                 575

Thr Val Thr His Pro Val Val Arg Asn Ala Leu Phe Cys Leu Glu Ser
            580                 585                 590

Ala Trp Lys Thr Ala Gln Glu Gly Asp His Gly Ser His Val Tyr Thr
        595                 600                 605

Lys Ala Leu Leu Ala Tyr Ala Phe Ala Leu Ala Gly Asn Gln Asp Lys
    610                 615                 620

Arg Lys Glu Val Leu Lys Ser Leu Asn Glu Glu Ala Val Lys Lys Asp
625                 630                 635                 640

Asn Ser Val His Trp Glu Arg Pro Gln Lys Pro Lys Ala Pro Val Gly
                645                 650                 655

His Phe Tyr Glu Pro Gln Ala Pro Ser Ala Glu Val Glu Met Thr Ser
            660                 665                 670

Tyr Val Leu Leu Ala Tyr Leu Thr Ala Gln Pro Ala Pro Thr Ser Glu
        675                 680                 685

Asp Leu Thr Ser Ala Thr Asn Ile Val Lys Trp Ile Thr Lys Gln Gln
    690                 695                 700

Asn Ala Gln Gly Gly Phe Ser Ser Thr Gln Asp Thr Val Val Ala Leu
705                 710                 715                 720

His Ala Leu Ser Lys Tyr Gly Ala Ala Thr Phe Thr Arg Thr Gly Lys
                725                 730                 735

Ala Ala Gln Val Thr Ile Gln Ser Ser Gly Thr Phe Ser Ser Lys Phe
            740                 745                 750

Gln Val Asp Asn Asn Asn Arg Leu Leu Leu Gln Gln Val Ser Leu Pro
        755                 760                 765

Glu Leu Pro Gly Glu Tyr Ser Met Lys Val Thr Gly Glu Gly Cys Val
    770                 775                 780

Tyr Leu Gln Thr Ser Leu Lys Tyr Asn Ile Leu Pro Glu Lys Glu Glu
785                 790                 795                 800

Phe Pro Phe Ala Leu Gly Val Gln Thr Leu Pro Gln Thr Cys Asp Glu
```

805 810 815

Pro Lys Ala His Thr Ser Phe Gln Ile Ser Leu Ser Val Ser Tyr Thr
820 825 830

Gly Ser Arg Ser Ala Ser Asn Met Ala Ile Val Asp Val Lys Met Val
835 840 845

Ser Gly Phe Ile Pro Leu Lys Pro Thr Val Lys Met Leu Glu Arg Ser
850 855 860

Asn His Val Ser Arg Thr Glu Val Ser Ser Asn His Val Leu Ile Tyr
865 870 875 880

Leu Asp Lys Val Ser Asn Gln Thr Leu Ser Leu Phe Phe Thr Val Leu
885 890 895

Gln Asp Val Pro Val Arg Asp Leu Lys Pro Ala Ile Val Lys Val Tyr
900 905 910

Asp Tyr Tyr Glu Thr Gly Glu Phe Ala Ile Ala Glu Tyr Asn Ala Pro
915 920 925

Cys Ser Lys Asp Leu Gly Asn Ala
930 935

<210> 36
<211> 898
<212> PRT
<213> Homo sapiens

<400> 36
Arg Leu Leu Ile Tyr Ala Val Leu Pro Thr Gly Asp Val Ile Gly Asp
1 5 10 15

Ser Ala Lys Tyr Asp Val Glu Asn Cys Leu Ala Asn Lys Val Asp Leu
20 25 30

Ser Phe Ser Pro Ser Gln Ser Leu Pro Ala Ser His Ala His Leu Arg
35 40 45

Val Thr Ala Ala Pro Gln Ser Val Cys Ala Leu Arg Ala Val Asp Gln
50 55 60

Ser Val Leu Leu Met Lys Pro Asp Ala Glu Leu Ser Ala Ser Ser Val
65 70 75 80

Tyr Asn Leu Leu Pro Glu Lys Asp Leu Thr Gly Phe Pro Gly Pro Leu
85 90 95

Asn Asp Gln Asp Asp Glu Asp Cys Ile Asn Arg His Asn Val Tyr Ile
100 105 110

Asn Gly Ile Thr Tyr Thr Pro Val Ser Ser Thr Asn Glu Lys Asp Met
115 120 125

Tyr Ser Phe Leu Glu Asp Met Gly Leu Lys Ala Phe Thr Asn Ser Lys
130 135 140

Ile Arg Lys Glu Glu Pro His Thr Glu Thr Val Arg Lys Tyr Phe Pro
145 150 155 160

```
Glu Thr Trp Ile Trp Asp Leu Val Val Val Asn Ser Ala Gly Val Ala
                165                 170                 175

Glu Val Gly Val Thr Val Pro Asp Thr Ile Thr Glu Trp Lys Ala Gly
            180                 185                 190

Ala Phe Cys Leu Ser Glu Asp Ala Gly Leu Gly Ile Ser Ser Thr Ala
        195                 200                 205

Ser Leu Arg Ala Phe Gln Pro Phe Phe Val Glu Leu Thr Met Pro Tyr
    210                 215                 220

Ser Val Ile Arg Gly Glu Ala Phe Thr Leu Lys Ala Thr Val Leu Asn
225                 230                 235                 240

Tyr Leu Pro Lys Cys Ile Arg Val Ser Val Gln Leu Glu Ala Ser Pro
                245                 250                 255

Ala Phe Leu Ala Val Pro Val Glu Lys Glu Gln Ala Pro His Cys Ile
            260                 265                 270

Cys Ala Asn Gly Arg Gln Thr Val Ser Trp Ala Val Thr Pro Lys Ser
        275                 280                 285

Leu Gly Asn Val Asn Phe Thr Val Ser Ala Glu Ala Leu Glu Ser Gln
    290                 295                 300

Glu Leu Cys Gly Thr Glu Val Pro Ser Val Pro Glu His Gly Arg Lys
305                 310                 315                 320

Asp Thr Val Ile Lys Pro Leu Leu Val Glu Pro Glu Gly Leu Glu Lys
                325                 330                 335

Glu Thr Thr Phe Asn Ser Leu Leu Cys Pro Ser Gly Gly Glu Val Ser
            340                 345                 350

Glu Glu Leu Ser Leu Lys Leu Pro Pro Asn Val Val Glu Glu Ser Ala
        355                 360                 365

Arg Ala Ser Val Ser Val Leu Gly Asp Ile Leu Gly Ser Ala Met Gln
    370                 375                 380

Asn Thr Gln Asn Leu Leu Gln Met Pro Tyr Gly Cys Gly Glu Gln Asn
385                 390                 395                 400

Met Val Leu Phe Ala Pro Asn Ile Tyr Val Leu Asp Tyr Leu Asn Glu
                405                 410                 415

Thr Gln Gln Leu Thr Pro Glu Val Lys Ser Lys Ala Ile Gly Tyr Leu
            420                 425                 430

Asn Thr Gly Tyr Gln Arg Gln Leu Asn Tyr Lys His Tyr Asp Gly Ser
        435                 440                 445

Tyr Ser Thr Phe Gly Glu Arg Tyr Gly Arg Asn Gln Gly Asn Thr Trp
    450                 455                 460

Leu Thr Ala Phe Val Leu Lys Thr Phe Ala Gln Ala Arg Ala Tyr Ile
465                 470                 475                 480

Phe Ile Asp Glu Ala His Ile Thr Gln Ala Leu Ile Trp Leu Ser Gln
                485                 490                 495
```

```
Arg Gln Lys Asp Asn Gly Cys Phe Arg Ser Ser Gly Ser Leu Leu Asn
            500                 505                 510

Asn Ala Ile Lys Gly Gly Val Glu Asp Glu Val Thr Leu Ser Ala Tyr
        515                 520                 525

Ile Thr Ile Ala Leu Leu Glu Ile Pro Leu Thr Val Thr His Pro Val
    530                 535                 540

Val Arg Asn Ala Leu Phe Cys Leu Glu Ser Ala Trp Lys Thr Ala Gln
545                 550                 555                 560

Glu Gly Asp His Gly Ser His Val Tyr Thr Lys Ala Leu Leu Ala Tyr
                565                 570                 575

Ala Phe Ala Leu Ala Gly Asn Gln Asp Lys Arg Lys Glu Val Leu Lys
            580                 585                 590

Ser Leu Asn Glu Glu Ala Val Lys Lys Asp Asn Ser Val His Trp Glu
        595                 600                 605

Arg Pro Gln Lys Pro Lys Ala Pro Val Gly His Phe Tyr Glu Pro Gln
    610                 615                 620

Ala Pro Ser Ala Glu Val Glu Met Thr Ser Tyr Val Leu Leu Ala Tyr
625                 630                 635                 640

Leu Thr Ala Gln Pro Ala Pro Thr Ser Glu Asp Leu Thr Ser Ala Thr
                645                 650                 655

Asn Ile Val Lys Trp Ile Thr Lys Gln Gln Asn Ala Gln Gly Gly Phe
            660                 665                 670

Ser Ser Thr Gln Asp Thr Val Val Ala Leu His Ala Leu Ser Lys Tyr
        675                 680                 685

Gly Ala Ala Thr Phe Thr Arg Thr Gly Lys Ala Ala Gln Val Thr Ile
    690                 695                 700

Gln Ser Ser Gly Thr Phe Ser Ser Lys Phe Gln Val Asp Asn Asn Asn
705                 710                 715                 720

Arg Leu Leu Leu Gln Gln Val Ser Leu Pro Glu Leu Pro Gly Glu Tyr
                725                 730                 735

Ser Met Lys Val Thr Gly Glu Gly Cys Val Tyr Leu Gln Thr Ser Leu
            740                 745                 750

Lys Tyr Asn Ile Leu Pro Glu Lys Glu Glu Phe Pro Phe Ala Leu Gly
        755                 760                 765

Val Gln Thr Leu Pro Gln Thr Cys Asp Glu Pro Lys Ala His Thr Ser
    770                 775                 780

Phe Gln Ile Ser Leu Ser Val Ser Tyr Thr Gly Ser Arg Ser Ala Ser
785                 790                 795                 800

Asn Met Ala Ile Val Asp Val Lys Met Val Ser Gly Phe Ile Pro Leu
                805                 810                 815

Lys Pro Thr Val Lys Met Leu Glu Arg Ser Asn His Val Ser Arg Thr
            820                 825                 830
```

```
Glu Val Ser Ser Asn His Val Leu Ile Tyr Leu Asp Lys Val Ser Asn
        835                 840                 845

Gln Thr Leu Ser Leu Phe Phe Thr Val Leu Gln Asp Val Pro Val Arg
    850                 855                 860

Asp Leu Lys Pro Ala Ile Val Lys Val Tyr Asp Tyr Tyr Glu Thr Asp
865                 870                 875                 880

Glu Phe Ala Ile Ala Glu Tyr Asn Ala Pro Cys Ser Lys Asp Leu Gly
                885                 890                 895

Asn Ala
```

<210> 37
<211> 936
<212> PRT
<213> Homo sapiens

<400> 37

```
Arg Leu Leu Ile Tyr Ala Val Leu Pro Thr Gly Asp Val Ile Gly Asp
  1               5                  10                  15

Ser Ala Lys Tyr Asp Val Glu Asn Glu Leu Ala Asn Lys Val Asp Leu
            20                  25                  30

Ser Phe Ser Pro Ser Gln Ser Leu Pro Ala Ser His Ala His Leu Arg
        35                  40                  45

Val Thr Ala Ala Pro Gln Ser Val Cys Ala Leu Arg Ala Val Asp Gln
    50                  55                  60

Ser Val Leu Leu Met Lys Pro Asp Ala Glu Leu Ser Ala Ser Ser Val
65                  70                  75                  80

Tyr Asn Leu Leu Pro Glu Lys Asp Leu Thr Gly Phe Pro Gly Pro Leu
                85                  90                  95

Asn Asp Gln Asp Asp Glu Asp Cys Ile Asn Arg His Asn Val Tyr Ile
            100                 105                 110

Asn Gly Ile Thr Tyr Thr Pro Val Ser Ser Thr Asn Glu Lys Asp Met
        115                 120                 125

Tyr Ser Phe Leu Glu Asp Met Gly Leu Lys Ala Phe Thr Asn Ser Lys
    130                 135                 140

Ile Arg Lys Pro Lys Met Cys Pro Gln Leu Gln Gln Tyr Glu Met His
145                 150                 155                 160

Gly Pro Glu Gly Leu Arg Val Gly Phe Tyr Glu Ser Asp Val Met Gly
                165                 170                 175

Arg Gly His Ala Arg Leu Val His Val Glu Glu Pro His Thr Glu Thr
            180                 185                 190

Val Arg Lys Tyr Phe Pro Glu Thr Trp Ile Trp Asp Leu Val Val Val
        195                 200                 205

Asn Ser Ala Gly Val Ala Glu Val Gly Val Thr Val Pro Asp Thr Ile
    210                 215                 220
```

```
Thr Glu Trp Lys Ala Gly Ala Phe Cys Leu Ser Glu Asp Ala Gly Leu
225                 230                 235                 240

Gly Ile Ser Ser Thr Ala Ser Leu Arg Ala Phe Gln Pro Phe Phe Val
                245                 250                 255

Glu Leu Thr Met Pro Tyr Ser Val Ile Arg Gly Glu Ala Phe Thr Leu
            260                 265                 270

Lys Ala Thr Val Leu Asn Tyr Leu Pro Lys Cys Ile Arg Val Ser Val
        275                 280                 285

Gln Leu Glu Ala Ser Pro Ala Phe Leu Ala Val Pro Val Glu Lys Glu
    290                 295                 300

Gln Ala Pro His Cys Ile Cys Ala Asn Gly Arg Gln Thr Val Ser Trp
305                 310                 315                 320

Ala Val Thr Pro Lys Ser Leu Gly Asn Val Asn Phe Thr Val Ser Ala
                325                 330                 335

Glu Ala Leu Glu Ser Gln Glu Leu Cys Gly Thr Glu Val Pro Ser Val
            340                 345                 350

Pro Glu His Gly Arg Lys Asp Thr Val Ile Lys Pro Leu Leu Val Glu
        355                 360                 365

Pro Glu Gly Leu Glu Lys Glu Thr Thr Phe Asn Ser Leu Leu Cys Pro
    370                 375                 380

Ser Gly Gly Glu Val Ser Glu Glu Leu Ser Leu Lys Leu Pro Pro Asn
385                 390                 395                 400

Val Val Glu Glu Ser Ala Arg Ala Ser Val Ser Val Leu Gly Asp Ile
                405                 410                 415

Leu Gly Ser Ala Met Gln Asn Thr Gln Asn Leu Leu Gln Met Pro Tyr
            420                 425                 430

Gly Cys Gly Glu Glx Asn Met Val Leu Phe Ala Pro Asn Ile Tyr Val
        435                 440                 445

Leu Asp Tyr Leu Asn Glu Thr Gln Gln Leu Thr Pro Glu Ile Lys Ser
    450                 455                 460

Lys Ala Ile Gly Tyr Leu Asn Thr Gly Tyr Gln Arg Gln Leu Asn Tyr
465                 470                 475                 480

Lys His Tyr Asp Gly Ser Tyr Ser Thr Phe Gly Glu Arg Tyr Gly Arg
                485                 490                 495

Asn Gln Gly Asn Thr Trp Leu Thr Ala Phe Val Leu Lys Thr Phe Ala
            500                 505                 510

Gln Ala Arg Ala Tyr Ile Phe Ile Asp Glu Ala His Ile Thr Gln Ala
        515                 520                 525

Leu Ile Trp Leu Ser Gln Arg Gln Lys Asp Asn Gly Cys Phe Arg Ser
    530                 535                 540

Ser Gly Ser Leu Leu Asn Asn Ala Ile Lys Gly Gly Val Glu Asp Glu
545                 550                 555                 560
```

Val Thr Leu Ser Ala Tyr Ile Lys Ile Ala Leu Leu Glu Ile Pro Leu
565 570 575

Thr Val Thr His Pro Val Val Arg Asn Ala Leu Phe Cys Leu Glu Ser
580 585 590

Ala Trp Lys Thr Ala Glu Glu Gly Asp His Gly Ser His Val Tyr Thr
595 600 605

Lys Ala Leu Leu Ala Tyr Ala Phe Ala Leu Ala Gly Asn Gln Asp Lys
610 615 620

Arg Lys Glu Val Leu Lys Ser Leu Asn Glu Glu Ala Val Lys Lys Asp
625 630 635 640

Asn Ser Val His Trp Glu Arg Pro Gln Lys Pro Lys Ala Pro Val Gly
645 650 655

His Phe Tyr Glu Pro Gln Ala Pro Ser Ala Glu Val Glu Met Thr Ser
660 665 670

Tyr Val Leu Leu Ala Tyr Leu Thr Ala Gln Pro Ala Pro Thr Ser Glu
675 680 685

Asp Leu Thr Ser Ala Thr Asn Ile Val Lys Trp Ile Thr Lys Gln Gln
690 695 700

Asn Ala Gln Gly Gly Phe Ser Ser Thr Gln Asp Lys Val Val Ala Leu
705 710 715 720

His Ala Leu Ser Lys Tyr Gly Ala Ala Thr Phe Thr Arg Thr Gly Lys
725 730 735

Ala Ala Gln Val Thr Ile Gln Ser Ser Gly Thr Phe Ser Ser Lys Phe
740 745 750

Gln Val Asp Asn Asn Asn Arg Leu Leu Leu Gln Gln Val Ser Leu Pro
755 760 765

Glu Leu Pro Gly Glu Tyr Ser Met Lys Val Thr Gly Glu Gly Cys Val
770 775 780

Tyr Leu Gln Thr Ser Leu Lys Tyr Asn Ile Leu Pro Glu Lys Glu Glu
785 790 795 800

Phe Pro Phe Ala Leu Gly Val Gln Thr Leu Pro Gln Thr Cys Asp Glu
805 810 815

Pro Lys Ala His Thr Ser Phe Gln Ile Ser Leu Ser Val Ser Tyr Thr
820 825 830

Gly Ser Arg Ser Ala Ser Asn Met Ala Ile Val Asp Val Lys Met Val
835 840 845

Ser Gly Phe Ile Pro Leu Lys Pro Thr Val Lys Met Leu Glu Arg Ser
850 855 860

Asn His Val Ser Arg Thr Glu Val Ser Ser Asn His Val Leu Ile Tyr
865 870 875 880

Leu Asp Lys Val Ser Asn Gln Thr Leu Ser Leu Phe Phe Thr Val Leu
885 890 895

```
Gln Asp Val Pro Val Arg Asp Leu Lys Pro Ala Ile Val Lys Val Tyr
            900                 905                 910

Asp Tyr Tyr Glu Thr Asp Glu Phe Ala Ile Ala Glu Tyr Asn Ala Pro
        915                 920                 925

Cys Ser Lys Asp Leu Gly Asn Ala
    930                 935
```

<210> 38
<211> 931
<212> PRT
<213> Rattus norvegicus

<400> 38

```
Arg Leu Val Leu Tyr Ala Ile Leu Pro Asn Gly Glu Val Val Gly Asp
  1               5                  10                  15

Thr Ala Lys Tyr Glu Ile Glu Asn Cys Leu Ala Asn Lys Val Asp Leu
            20                  25                  30

Val Phe Arg Pro Asn Ser Gly Leu Pro Ala Thr Arg Ala Leu Leu Ser
        35                  40                  45

Val Met Ala Ser Pro Gln Ser Leu Cys Gly Leu Arg Ala Val Asp Gln
    50                  55                  60

Ser Val Leu Leu Met Lys Pro Glu Thr Glu Leu Ser Ala Ser Leu Ile
65                  70                  75                  80

Tyr Asp Leu Leu Pro Val Lys Asp Leu Thr Gly Phe Pro Gln Gly Ala
                85                  90                  95

Asp Gln Arg Glu Glu Asp Thr Asn Gly Cys Val Lys Gln Asn Asp Thr
            100                 105                 110

Tyr Ile Asn Gly Ile Leu Tyr Ser Pro Val Gln Asn Thr Asn Glu Glu
        115                 120                 125

Asp Met Tyr Gly Phe Leu Lys Asp Met Gly Leu Lys Val Phe Thr Asn
    130                 135                 140

Ser Asn Ile Arg Lys Pro Lys Val Cys Glu Arg Leu Arg Asp Asn Lys
145                 150                 155                 160

Gly Ile Pro Ala Ala Tyr His Leu Val Ser Gln Ser His Met Asp Ala
                165                 170                 175

Phe Leu Glu Ser Ser Glu Ser Pro Thr Glu Thr Arg Arg Ser Tyr Phe
            180                 185                 190

Pro Glu Thr Trp Ile Trp Asp Leu Val Val Val Asp Ser Ala Gly Val
        195                 200                 205

Ala Glu Val Glu Val Thr Val Pro Asp Thr Ile Thr Glu Trp Lys Ala
    210                 215                 220

Gly Ala Phe Cys Leu Ser Asn Asp Thr Gly Leu Gly Leu Ser Pro Val
225                 230                 235                 240

Val Gln Phe Gln Ala Phe Gln Pro Phe Phe Val Glu Leu Thr Met Pro
```

245 250 255

Tyr Ser Val Ile Arg Gly Glu Ala Phe Thr Leu Lys Ala Thr Val Leu
260 265 270

Asn Tyr Leu Pro Thr Cys Ile Arg Val Ala Val Gln Leu Glu Ala Ser
275 280 285

Pro Asp Phe Leu Ala Ala Pro Glu Glu Lys Glu Gln Arg Ser His Cys
290 295 300

Ile Cys Met Asn Gln Arg His Thr Ala Ser Trp Ala Val Ile Pro Lys
305 310 315 320

Ser Leu Gly Asn Val Asn Phe Thr Val Ser Ala Glu Ala Leu Asn Ser
325 330 335

Lys Glu Leu Cys Gly Asn Glu Val Pro Val Val Pro Glu Gln Gly Lys
340 345 350

Lys Asp Thr Ile Ile Lys Ser Leu Leu Val Glu Pro Glu Gly Leu Glu
355 360 365

Asn Glu Val Thr Phe Asn Ser Leu Leu Cys Pro Met Gly Ala Glu Val
370 375 380

Ser Glu Leu Ile Ala Leu Lys Leu Pro Ser Asp Val Val Glu Glu Ser
385 390 395 400

Ala Arg Ala Ser Val Thr Val Leu Gly Asp Ile Leu Gly Ser Ala Met
405 410 415

Gln Asn Thr Gln Asp Leu Leu Lys Met Pro Tyr Gly Cys Gly Glu Gln
420 425 430

Asn Met Val Leu Phe Ala Pro Asn Ile Tyr Val Leu Asp Tyr Leu Asn
435 440 445

Glu Thr Gln Gln Leu Thr Gln Glu Ile Lys Thr Lys Ala Ile Ala Tyr
450 455 460

Leu Asn Thr Gly Tyr Gln Arg Gln Leu Asn Tyr Lys His Arg Asp Gly
465 470 475 480

Ser Tyr Ser Ala Phe Gly Asp Lys Pro Gly Arg Asn His Ala Asn Thr
485 490 495

Trp Leu Thr Ala Phe Val Leu Lys Ser Phe Ala Gln Ala Arg Lys Tyr
500 505 510

Ile Phe Ile Asp Glu Val His Ile Thr Gln Ala Leu Leu Trp Leu Ser
515 520 525

Gln Gln Gln Lys Asp Asn Gly Cys Phe Arg Ser Ser Gly Ser Leu Leu
530 535 540

Asn Asn Ala Met Lys Gly Gly Val Glu Asp Glu Val Thr Leu Ser Ala
545 550 555 560

Tyr Ile Thr Ile Ala Leu Leu Glu Met Ser Leu Pro Val Thr His Pro
565 570 575

Val Val Arg Asn Ala Leu Phe Cys Leu Asp Thr Ala Trp Lys Ser Ala

580 585 590

Arg Gly Gly Ala Gly Gly Ser His Val Tyr Thr Lys Ala Leu Leu Ala
595 600 605

Tyr Ala Phe Ala Leu Ala Gly Pro Val Val Arg Asn Ala Leu Phe Cys
610 615 620

Leu Asp Thr Ala Trp Lys Ser Ala Arg Gly Gly Ala Gly Gly Ser His
625 630 635 640

Val Tyr Thr Lys Ala Leu Leu Ala Tyr Ala Phe Ala Leu Ala Gly Pro
645 650 655

Gln Ala Thr Ser Ala Glu Val Glu Met Thr Ala Tyr Val Leu Leu Ala
660 665 670

Tyr Leu Thr Thr Glu Pro Ala Pro Thr Gln Glu Asp Leu Thr Ala Ala
675 680 685

Met Leu Ile Val Lys Trp Leu Thr Lys Gln Gln Asn Ser His Gly Gly
690 695 700

Phe Ser Ser Thr Gln Asp Thr Val Val Ala Leu His Ala Leu Ser Lys
705 710 715 720

Tyr Gly Ser Ala Thr Phe Thr Arg Ala Lys Lys Ala Ala Gln Val Thr
725 730 735

Ile Arg Ser Ser Gly Thr Phe Ser Thr Lys Phe Gln Val Asn Asn Asn
740 745 750

Asn Gln Leu Leu Leu Gln Arg Val Thr Leu Pro Thr Val Pro Gly Asp
755 760 765

Tyr Thr Val Lys Val Thr Gly Glu Gly Cys Val Tyr Leu Gln Thr Ser
770 775 780

Leu Lys Tyr Ser Val Leu Pro Arg Glu Glu Glu Phe Pro Phe Ala Val
785 790 795 800

Val Val Gln Thr Leu Pro Gly Thr Cys Glu Asp Pro Lys Ala His Thr
805 810 815

Ser Phe Gln Ile Ser Leu Asn Ile Ser Tyr Thr Gly Ser Arg Ser Glu
820 825 830

Ser Asn Met Ala Ile Ala Asp Val Lys Met Val Ser Gly Phe Ile Pro
835 840 845

Leu Lys Pro Thr Val Lys Met Leu Glu Arg Ser Val His Val Ser Arg
850 855 860

Thr Glu Val Ser Asn Asn His Val Leu Ile Tyr Leu Asp Lys Val Ser
865 870 875 880

Asn Gln Thr Val Asn Leu Ser Phe Thr Val Gln Gln Asp Ile Pro Ile
885 890 895

Arg Asp Leu Lys Pro Ala Val Val Lys Val Tyr Asp Tyr Tyr Glu Lys
900 905 910

Asp Glu Phe Ala Val Ala Lys Tyr Ser Ala Pro Cys Ser Thr Asp Tyr

915 920 925

Gly Asn Ala
930

<210> 39
<211> 941
<212> PRT
<213> Cavia porcellus

<400> 39
Arg Val Leu Ile Tyr Ala Ile Leu Pro Ser Gly Glu Ile Ile Ala Asp
1 5 10 15

Ser Ala Lys Tyr Asn Val Glu Asn Cys Leu Asp Asn Lys Val Asn Leu
20 25 30

Ser Phe Ser Glu Gly Gln Ser Leu Pro Ala Ser Lys Thr His Leu Arg
35 40 45

Val Thr Ala Ser Pro Gln Ser Leu Cys Ala Leu Arg Ala Val Asp Gln
50 55 60

Ser Val Leu Leu Arg Lys Pro Glu Ala Val Leu Ser Ala Ser Ser Val
65 70 75 80

Tyr Ala Leu Leu Pro Val Lys Asp Leu Thr Gly Phe Pro Gly Leu Leu
85 90 95

Gly Gln Gln Glu Glu Asn Asp Gly Glu Cys Val Ser Leu Tyr Asn Thr
100 105 110

Tyr Ile Asp Gly Ile Leu Tyr Ser Pro Glu Pro Asn Ile Asn Glu Lys
115 120 125

Asp Met Tyr Gly Phe Leu Lys Asp Met Gly Leu Lys Val Phe Thr Asn
130 135 140

Thr Lys Ile Gln Lys Pro Gln Leu Cys Ala His Val Gln Lys Phe Glu
145 150 155 160

Val Pro Thr Met Ala Tyr Ser Tyr Ser Glu Ser Ser Ser Phe Arg Ser
165 170 175

Gly Pro Arg Arg Val Pro Ala Val Gly Ile Ala Ala Thr Tyr Ser Glu
180 185 190

Pro Pro Lys Glu Thr Val Arg Thr Tyr Ser Pro Glu Thr Trp Ile Trp
195 200 205

Asp Leu Lys Val Thr Asp Ser Ser Gly Val Ala Glu Val Glu Val Thr
210 215 220

Val Pro Asp Thr Ile Thr Glu Trp Lys Ala Gly Ala Phe Cys Leu Ser
225 230 235 240

Asn Asp Thr Gly Leu Gly Leu Ser Pro Thr Ala Ser Leu Arg Ala Phe
245 250 255

Gln Pro Phe Phe Val Glu Leu Thr Met Pro Tyr Ser Val Ile Arg Gly
260 265 270

```
Glu Ala Phe Thr Leu Lys Ala Thr Val Leu Asn Tyr Leu Pro Asp Cys
        275                 280                 285

Ile Arg Ile Ser Val His Leu Glu Ala Ser Pro Lys Phe Leu Ala Glu
    290                 295                 300

Pro Lys Ala Lys Glu Gln Glu Ser Tyr Cys Val Cys Gly Asn Glu Arg
305                 310                 315                 320

Gln Thr Val Ser Trp Val Val Thr Pro Lys Ser Leu Gly Asn Val Asn
                325                 330                 335

Phe Thr Val Ser Ala Glu Ala Leu Glu Ser Ser Glu Leu Cys Gly Asn
            340                 345                 350

Glu Lys Thr Val Val Pro Thr Tyr Gly Lys Lys Asp Thr Ile Ile Lys
        355                 360                 365

Pro Leu Leu Val Glu Pro Glu Gly Ile Glu Lys Glu Glu Thr Trp Thr
    370                 375                 380

Ser Leu Ile Arg Val Ser Asp Thr Thr Val Ser Glu Lys Leu His Leu
385                 390                 395                 400

Glu Leu Pro Ser Asn Val Ile Gln Asp Ser Ala Arg Ala Thr Val Ser
                405                 410                 415

Ile Leu Gly Asp Ile Leu Gly Ser Ala Met Gln Asn Ile Gln Asn Leu
            420                 425                 430

Leu Gln Met Pro Tyr Gly Cys Gly Glu Gln Asn Met Val Leu Phe Ala
        435                 440                 445

Pro Asn Ile Tyr Val Leu Asp Tyr Leu Asn Glu Thr Gln Gln Leu Thr
    450                 455                 460

Pro Asp Ile Lys Ser Lys Ala Ile Ser Tyr Leu Ser Thr Gly Tyr Gln
465                 470                 475                 480

Arg Gln Leu Asn Tyr Lys His Arg Asp Gly Ser Tyr Ser Thr Phe Gly
                485                 490                 495

Glu Asn Tyr Arg Gly Gly Gln Gly Asn Thr Trp Leu Thr Ala Phe Val
            500                 505                 510

Leu Lys Thr Phe Ser Gln Ala Arg Lys Tyr Ile Phe Ile Asp Glu Ala
        515                 520                 525

His Ile Thr Gln Ala Leu Ser Trp Leu Ser Gln Lys Gln Lys Asp Asn
    530                 535                 540

Gly Cys Phe Trp Ser Ser Gly Ser Leu Leu Asn Asn Ala Ile Lys Gly
545                 550                 555                 560

Gly Val Glu Asp Glu Ile Ser Leu Ser Ala Tyr Ile Thr Ile Ala Leu
                565                 570                 575

Leu Glu Met Ser Leu Pro Asp Thr His Pro Val Val Arg Asn Ala Leu
            580                 585                 590

Phe Cys Leu Glu Ser Ala Trp Lys Ser Ala Lys Glu Gly Thr His Gly
        595                 600                 605
```

```
Ser His Val Tyr Thr Lys Ala Leu Leu Ala Tyr Ala Phe Ala Leu Ala
    610                 615                 620

Gly Asn Gln Glu Arg Lys Lys Glu Ile Leu Lys Ser Leu Glu Asp Glu
625                 630                 635                 640

Gly Val Lys Glu Asp Asn Ser Leu His Trp Ala Arg Pro Gln Lys Pro
                645                 650                 655

Lys Val Ser Glu Gly Phe Leu Phe Lys Ser Gln Ala Pro Ser Ala Glu
            660                 665                 670

Val Glu Met Thr Ser Tyr Val Leu Leu Ala Tyr Leu Thr Ala Arg Pro
        675                 680                 685

Ala Pro Thr Pro Glu Asp Leu Thr Ser Ala Thr Asp Ile Val Asn Trp
    690                 695                 700

Val Thr Lys Gln Gln Asn Ser His Gly Gly Tyr Ser Ser Thr Gln Asp
705                 710                 715                 720

Thr Val Val Ala Leu His Ala Leu Ser Lys Tyr Ala Ala Ala Thr Phe
                725                 730                 735

Thr Arg Thr Glu Lys Ala Ala Gln Val Thr Ile Lys Ser Ser Gly Thr
            740                 745                 750

Phe Ser Thr Asn Phe Glu Val Asn His Asn Asn Arg Leu Leu Leu Gln
        755                 760                 765

Gln Val Ser Leu Pro Thr Val Ser Asp Ser Tyr Thr Ile Thr Val Thr
    770                 775                 780

Gly Glu Gly Asn Val Tyr Leu Gln Thr Ser Leu Lys Tyr Asn Val Pro
785                 790                 795                 800

Ser Glu Lys Gly Thr Phe Pro Phe Ala Leu Glu Ala Glu Thr Val Pro
                805                 810                 815

Gln Ala Cys Asp Gly Pro Lys Ala His Thr Ser Phe Gln Ile Ser Leu
            820                 825                 830

Asn Val Ser Tyr Ile Gly Ser Arg Pro Val Ser Asn Met Ala Ile Val
        835                 840                 845

Asp Val Lys Met Val Ser Gly Phe Ile Pro Leu Lys Pro Thr Val Lys
    850                 855                 860

Asn Leu Glu Lys Ser Glu His Ile Ser Arg Thr Glu Val Ser Asn Asn
865                 870                 875                 880

His Val Leu Ile Tyr Leu Asp Lys Val Ser Asn Gln Thr Leu Ser Leu
                885                 890                 895

Ser Phe Phe Val Val Gln Asp Ile Glu Val Arg Asp Leu Lys Pro Ala
            900                 905                 910

Ile Ile Lys Val Tyr Asp Tyr Tyr Glu Thr Asn Glu Phe Ala Ile Ala
        915                 920                 925

Glu Tyr His Ala Pro Cys Ser Lys Asp Pro Gly Asn Ala
    930                 935                 940
```

<210> 40
<211> 373
<212> PRT
<213> Mus musculus

<400> 40

```
Met Ser Thr Asp Cys Ala Gly Asn Ser Thr Cys Pro Val Asn Ser Thr
  1               5                  10                  15

Glu Glu Asp Pro Pro Val Gly Met Glu Gly His Ala Asn Leu Lys Leu
             20                  25                  30

Leu Phe Thr Val Leu Ser Ala Val Met Val Gly Leu Val Met Phe Ser
         35                  40                  45

Phe Gly Cys Ser Val Glu Ser Gln Lys Leu Trp Leu His Leu Arg Arg
     50                  55                  60

Pro Trp Gly Ile Ala Val Gly Leu Leu Ser Gln Phe Gly Leu Met Pro
 65                  70                  75                  80

Leu Thr Ala Tyr Leu Leu Ala Ile Gly Phe Gly Leu Lys Pro Phe Gln
                 85                  90                  95

Ala Ile Ala Val Leu Met Met Gly Ser Cys Pro Gly Gly Thr Ile Ser
            100                 105                 110

Asn Val Leu Thr Phe Trp Val Asp Gly Asp Met Asp Leu Ser Ile Ser
        115                 120                 125

Met Thr Thr Cys Ser Thr Val Ala Ala Leu Gly Met Met Pro Leu Cys
    130                 135                 140

Leu Tyr Ile Tyr Thr Arg Ser Trp Thr Leu Thr Gln Asn Leu Val Ile
145                 150                 155                 160

Pro Tyr Gln Ser Ile Gly Ile Thr Leu Val Ser Leu Val Val Pro Val
                165                 170                 175

Ala Ser Gly Val Tyr Val Asn Tyr Arg Trp Pro Lys Gln Ala Thr Val
            180                 185                 190

Ile Leu Lys Val Gly Ala Ile Leu Gly Gly Met Leu Leu Leu Val Val
        195                 200                 205

Ala Val Thr Gly Met Val Leu Ala Lys Gly Trp Asn Thr Asp Val Thr
    210                 215                 220

Leu Leu Val Ile Ser Cys Ile Phe Pro Leu Val Gly His Val Thr Gly
225                 230                 235                 240

Phe Leu Leu Ala Phe Leu Thr His Gln Ser Trp Gln Arg Cys Arg Thr
                245                 250                 255

Ile Ser Ile Glu Thr Gly Ala Gln Asn Ile Gln Leu Cys Ile Ala Met
            260                 265                 270

Leu Gln Leu Ser Phe Ser Ala Glu Tyr Leu Val Gln Leu Leu Asn Phe
        275                 280                 285

Ala Leu Ala Tyr Gly Leu Phe Gln Val Leu His Gly Leu Leu Ile Val
    290                 295                 300
```

```
Ala Ala Tyr Gln Ala Tyr Lys Arg Arg Gln Lys Ser Lys Cys Arg Arg
305                 310                 315                 320

Gln His Pro Asp Cys Pro Asp Val Cys Tyr Glu Lys Gln Pro Arg Glu
                325                 330                 335

Thr Ser Ala Phe Leu Asp Lys Gly Asp Glu Ala Ala Val Thr Leu Gly
            340                 345                 350

Pro Val Gln Pro Glu Gln His His Arg Ala Ala Glu Leu Thr Ser His
        355                 360                 365

Ile Pro Ser Cys Glu
    370
```

<210> 41
<211> 347
<212> PRT
<213> Orycctolagus cuniculus

<400> 41

```
Met Ser Asn Leu Thr Val Gly Cys Leu Ala Asn Ala Thr Val Cys Glu
  1               5                  10                  15

Gly Ala Ser Cys Val Ala Pro Glu Ser Asn Phe Asn Ala Ile Leu Ser
            20                  25                  30

Val Val Leu Ser Thr Val Leu Thr Ile Leu Leu Ala Leu Val Met Phe
        35                  40                  45

Ser Met Gly Cys Asn Val Glu Ile Lys Lys Phe Leu Gly His Ile Arg
     50                  55                  60

Arg Pro Trp Gly Ile Phe Ile Gly Phe Leu Cys Gln Phe Gly Ile Met
 65                  70                  75                  80

Pro Leu Thr Gly Phe Val Leu Ala Val Ala Phe Gly Ile Met Pro Ile
                85                  90                  95

Gln Ala Val Val Val Leu Ile Met Gly Cys Cys Pro Gly Gly Thr Ala
            100                 105                 110

Ser Asn Ile Leu Ala Tyr Trp Val Asp Gly Asp Met Asp Leu Ser Val
        115                 120                 125

Ser Met Thr Thr Cys Ser Thr Leu Leu Ala Leu Gly Met Met Pro Leu
    130                 135                 140

Cys Leu Tyr Val Tyr Thr Lys Met Trp Val Asp Ser Gly Thr Ile Val
145                 150                 155                 160

Ile Pro Tyr Asp Asn Ile Gly Thr Ser Leu Val Ala Leu Val Val Pro
                165                 170                 175

Val Ser Ile Gly Met Phe Val Asn His Lys Trp Pro Gln Lys Ala Lys
            180                 185                 190

Ile Ile Leu Lys Val Gly Ser Ile Ala Gly Ala Val Leu Ile Val Leu
        195                 200                 205

Ile Ala Val Val Gly Gly Ile Leu Tyr Gln Ser Ala Trp Ile Ile Glu
```

210 215 220

Pro Lys Leu Trp Ile Ile Gly Thr Ile Phe Pro Met Ala Gly Tyr Ser
225 230 235 240

Leu Gly Phe Phe Leu Ala Arg Ile Ala Gly Gln Pro Trp Tyr Arg Cys
245 250 255

Arg Thr Val Ala Leu Glu Thr Gly Met Gln Asn Thr Gln Leu Cys Ser
260 265 270

Thr Ile Val Gln Leu Ser Phe Ser Pro Glu Asp Leu Thr Tyr Val Phe
275 280 285

Thr Phe Pro Leu Ile Tyr Ser Ile Phe Gln Ile Ala Phe Ala Ala Ile
290 295 300

Phe Leu Gly Ile Tyr Val Ala Tyr Arg Lys Cys His Gly Lys Asn Asp
305 310 315 320

Ala Glu Phe Pro Asp Ile Lys Asp Thr Lys Thr Glu Pro Glu Ser Ser
325 330 335

Phe His Gln Met Asn Gly Gly Phe Gln Pro Glu
340 345

<210> 42
<211> 348
<212> PRT
<213> Rattus norvegicus

<400> 42
Met Asp Asn Ser Ser Val Cys Ser Pro Asn Ala Thr Phe Cys Glu Gly
1 5 10 15

Asp Ser Cys Leu Val Thr Glu Ser Asn Phe Asn Ala Ile Leu Ser Thr
20 25 30

Val Met Ser Thr Val Leu Thr Ile Leu Leu Ala Met Val Met Phe Ser
35 40 45

Met Gly Cys Asn Val Glu Ile Asn Lys Phe Leu Gly His Ile Lys Arg
50 55 60

Pro Trp Gly Ile Phe Val Gly Phe Leu Cys Gln Phe Gly Ile Met Pro
65 70 75 80

Leu Thr Gly Phe Ile Leu Ser Val Ala Ser Gly Ile Leu Pro Val Gln
85 90 95

Ala Val Val Val Leu Ile Met Gly Cys Cys Pro Gly Gly Thr Gly Ser
100 105 110

Asn Ile Leu Ala Tyr Trp Ile Asp Gly Asp Met Asp Leu Ser Val Ser
115 120 125

Met Thr Thr Cys Ser Thr Leu Leu Ala Leu Gly Met Met Pro Leu Cys
130 135 140

Leu Phe Ile Tyr Thr Lys Met Trp Val Asp Ser Gly Thr Ile Val Ile
145 150 155 160

```
Pro Tyr Asp Ser Ile Gly Ile Ser Leu Val Ala Leu Val Ile Pro Val
                165                 170                 175

Ser Ile Gly Met Phe Val Asn His Lys Trp Pro Gln Lys Ala Lys Ile
            180                 185                 190

Ile Leu Lys Ile Gly Ser Ile Ala Gly Ala Ile Leu Ile Val Leu Ile
        195                 200                 205

Ala Val Val Gly Gly Ile Leu Tyr Gln Ser Ala Trp Ile Ile Glu Pro
    210                 215                 220

Lys Leu Trp Ile Ile Gly Thr Ile Phe Pro Ile Ala Gly Tyr Ser Leu
225                 230                 235                 240

Gly Phe Phe Leu Ala Arg Leu Ala Gly Gln Pro Trp Tyr Arg Cys Arg
                245                 250                 255

Thr Val Ala Leu Glu Thr Gly Met Gln Asn Thr Gln Leu Cys Ser Thr
            260                 265                 270

Ile Val Gln Leu Ser Phe Ser Pro Glu Asp Leu Asn Leu Val Phe Thr
        275                 280                 285

Phe Pro Leu Ile Tyr Thr Val Phe Gln Leu Val Phe Ala Ala Ile Ile
    290                 295                 300

Leu Gly Met Tyr Val Thr Tyr Lys Lys Cys His Gly Lys Asn Asp Ala
305                 310                 315                 320

Glu Phe Leu Glu Lys Thr Asp Asn Asp Met Asp Pro Met Pro Ser Phe
                325                 330                 335

Gln Glu Thr Asn Lys Gly Phe Gln Pro Asp Glu Lys
            340                 345
```

<210> 43
<211> 348
<212> PRT
<213> Mus musculus

<400> 43

```
Met Asp Asn Ser Ser Val Cys Pro Pro Asn Ala Thr Val Cys Glu Gly
  1                 5                  10                  15

Asp Ser Cys Val Val Pro Glu Ser Asn Phe Asn Ala Ile Leu Asn Thr
            20                  25                  30

Val Met Ser Thr Val Leu Thr Ile Leu Leu Ala Met Val Met Phe Ser
        35                  40                  45

Met Gly Cys Asn Val Glu Val His Lys Phe Leu Gly His Ile Lys Arg
    50                  55                  60

Pro Trp Gly Ile Phe Val Gly Phe Leu Cys Gln Phe Gly Ile Met Pro
65                  70                  75                  80

Leu Thr Gly Phe Ile Leu Ser Val Ala Ser Gly Ile Leu Pro Val Gln
                85                  90                  95

Ala Val Val Val Leu Ile Met Gly Cys Cys Pro Gly Gly Thr Gly Ser
            100                 105                 110
```

```
Asn Ile Leu Ala Tyr Trp Ile Asp Gly Asp Met Asp Leu Ser Val Ser
        115                 120                 125

Met Thr Thr Cys Ser Thr Leu Leu Ala Leu Gly Met Met Pro Leu Cys
    130                 135                 140

Leu Phe Val Tyr Thr Lys Met Trp Val Asp Ser Gly Thr Ile Val Ile
145                 150                 155                 160

Pro Tyr Asp Ser Ile Gly Ile Ser Leu Val Ala Leu Val Ile Pro Val
                165                 170                 175

Ser Phe Gly Met Phe Val Asn His Lys Trp Pro Gln Lys Ala Lys Ile
            180                 185                 190

Ile Leu Lys Ile Gly Ser Ile Thr Gly Val Ile Leu Ile Val Leu Ile
        195                 200                 205

Ala Val Ile Gly Gly Ile Leu Tyr Gln Ser Ala Trp Ile Ile Glu Pro
    210                 215                 220

Lys Leu Trp Ile Ile Gly Thr Ile Phe Pro Ile Ala Gly Tyr Ser Leu
225                 230                 235                 240

Gly Phe Phe Leu Ala Arg Leu Ala Gly Gln Pro Trp Tyr Arg Cys Arg
                245                 250                 255

Thr Val Ala Leu Glu Thr Gly Met Gln Asn Thr Gln Leu Cys Ser Thr
            260                 265                 270

Ile Val Gln Leu Ser Phe Ser Pro Glu Asp Leu Asn Leu Val Phe Thr
        275                 280                 285

Phe Pro Leu Ile Tyr Thr Val Phe Gln Leu Val Phe Ala Ala Val Ile
    290                 295                 300

Leu Gly Ile Tyr Val Thr Tyr Arg Lys Cys Tyr Gly Lys Asn Asp Ala
305                 310                 315                 320

Glu Phe Leu Glu Lys Thr Asp Asn Glu Met Asp Ser Arg Pro Ser Phe
                325                 330                 335

Asp Glu Thr Asn Lys Gly Phe Gln Pro Asp Glu Lys
            340                 345


<210> 44
<211> 348
<212> PRT
<213> Mus musculus

<400> 44
Met Asp Asn Ser Ser Val Cys Pro Pro Asn Ala Thr Val Cys Glu Gly
  1                 5                  10                  15

Asp Ser Cys Val Val Pro Glu Ser Asn Phe Asn Ala Ile Leu Asn Thr
            20                  25                  30

Val Met Ser Thr Val Leu Thr Ile Leu Leu Ala Met Val Met Phe Ser
        35                  40                  45

Met Gly Cys Asn Val Glu Val His Lys Phe Leu Gly His Ile Lys Arg
```

```
     50                  55                  60

Pro Trp Gly Ile Phe Val Gly Phe Leu Cys Gln Phe Gly Ile Met Pro
 65                  70                  75                  80

Leu Thr Gly Phe Ile Leu Ser Val Ala Ser Gly Ile Leu Pro Val Gln
                 85                  90                  95

Ala Val Val Val Leu Ile Met Gly Cys Cys Pro Gly Gly Thr Gly Ser
            100                 105                 110

Asn Ile Leu Ala Tyr Trp Ile Asp Gly Asp Met Asp Leu Ser Val Ser
        115                 120                 125

Met Thr Thr Cys Ser Thr Leu Leu Ala Leu Gly Met Met Pro Leu Cys
    130                 135                 140

Leu Phe Val Tyr Thr Lys Met Trp Val Asp Ser Gly Thr Ile Val Ile
145                 150                 155                 160

Pro Tyr Asp Ser Ile Gly Ile Ser Leu Val Ala Leu Val Ile Pro Val
                165                 170                 175

Ser Phe Gly Met Phe Val Asn His Lys Trp Pro Gln Lys Ala Lys Ile
            180                 185                 190

Ile Leu Lys Ile Gly Ser Ile Thr Gly Val Ile Leu Ile Val Leu Ile
        195                 200                 205

Ala Val Ile Gly Gly Ile Leu Tyr Gln Ser Ala Trp Ile Ile Glu Pro
    210                 215                 220

Lys Leu Trp Ile Ile Gly Thr Ile Phe Pro Ile Ala Gly Tyr Ser Leu
225                 230                 235                 240

Gly Phe Phe Leu Ala Arg Leu Ala Gly Gln Pro Trp Tyr Arg Cys Arg
                245                 250                 255

Thr Val Ala Leu Glu Thr Gly Met Gln Asn Thr Gln Leu Cys Ser Thr
            260                 265                 270

Ile Val Gln Leu Ser Phe Ser Pro Glu Asp Leu Asn Leu Val Phe Thr
        275                 280                 285

Phe Pro Leu Ile Tyr Thr Val Phe Gln Leu Val Phe Ala Ala Val Ile
    290                 295                 300

Leu Gly Ile Tyr Val Thr Tyr Arg Lys Cys Tyr Gly Lys Asn Asp Ala
305                 310                 315                 320

Glu Phe Leu Glu Lys Thr Asp Asn Glu Met Asp Ser Arg Pro Ser Phe
                325                 330                 335

Asp Glu Thr Asn Lys Gly Phe Gln Pro Asp Glu Lys
            340                 345
```

<210> 45
<211> 348
<212> PRT
<213> Homo sapiens

<400> 45

```
Met Asp Asn Ser Ser Ile Cys Asn Pro Asn Ala Thr Ile Cys Glu Gly
  1               5                  10                  15

Asp Ser Cys Ile Ala Pro Glu Ser Asn Phe Asn Ala Ile Leu Ser Val
            20                  25                  30

Val Met Ser Thr Val Leu Thr Ile Leu Leu Ala Leu Val Met Phe Ser
        35                  40                  45

Met Gly Cys Asn Val Glu Leu His Lys Phe Leu Gly His Leu Arg Arg
    50                  55                  60

Pro Trp Gly Ile Val Val Gly Phe Leu Cys Gln Phe Gly Ile Met Pro
65                  70                  75                  80

Leu Thr Gly Phe Val Leu Ser Val Ala Phe Gly Ile Leu Pro Val Gln
                85                  90                  95

Ala Val Val Val Leu Ile Gln Gly Cys Cys Pro Gly Gly Thr Ala Ser
            100                 105                 110

Asn Ile Leu Ala Tyr Trp Val Asp Gly Asp Met Asp Leu Ser Val Ser
        115                 120                 125

Met Thr Thr Cys Ser Thr Leu Leu Ala Leu Gly Met Met Pro Leu Cys
    130                 135                 140

Leu Phe Ile Tyr Thr Lys Met Trp Val Asp Ser Gly Thr Ile Val Ile
145                 150                 155                 160

Pro Tyr Asp Ser Ile Gly Thr Ser Leu Val Ala Leu Val Ile Pro Val
                165                 170                 175

Ser Ile Gly Met Tyr Val Asn His Lys Trp Pro Gln Lys Ala Lys Ile
            180                 185                 190

Ile Leu Lys Ile Gly Ser Ile Ala Gly Ala Ile Leu Ile Val Leu Ile
        195                 200                 205

Ala Val Val Gly Gly Ile Leu Tyr Gln Ser Ala Trp Thr Ile Glu Pro
    210                 215                 220

Lys Leu Trp Ile Ile Gly Thr Ile Tyr Pro Ile Ala Gly Tyr Gly Leu
225                 230                 235                 240

Gly Phe Phe Leu Ala Arg Ile Ala Gly Gln Pro Trp Tyr Arg Cys Arg
                245                 250                 255

Thr Val Ala Leu Glu Thr Gly Leu Gln Asn Thr Gln Leu Cys Ser Thr
            260                 265                 270

Ile Val Gln Leu Ser Phe Ser Pro Glu Asp Leu Asn Leu Val Phe Thr
        275                 280                 285

Phe Pro Leu Ile Tyr Ser Ile Phe Gln Ile Ala Phe Ala Ala Ile Leu
    290                 295                 300

Leu Gly Ala Tyr Val Ala Tyr Lys Lys Cys His Gly Lys Asn Asn Thr
305                 310                 315                 320

Glu Leu Gln Glu Lys Thr Asp Asn Glu Met Glu Pro Arg Ser Ser Phe
                325                 330                 335
```

Gln Glu Thr Asn Lys Gly Phe Gln Pro Asp Glu Lys
340 345

<210> 46
<211> 272
<212> PRT
<213> Homo sapiens

<400> 46
Met Ala Ala Lys Val Phe Glu Ser Ile Gly Lys Phe Gly Leu Ala Leu
1 5 10 15

Ala Val Ala Gly Gly Val Val Asn Ser Ala Leu Tyr Asn Val Asp Ala
20 25 30

Gly His Arg Ala Val Ile Phe Asp Arg Phe Arg Gly Val Gln Asp Ile
35 40 45

Val Val Gly Glu Gly Thr His Phe Leu Ile Pro Trp Val Gln Lys Pro
50 55 60

Ile Ile Phe Asp Cys Arg Ser Arg Pro Arg Asn Val Pro Val Ile Thr
65 70 75 80

Gly Ser Lys Asp Leu Gln Asn Val Asn Ile Thr Leu Arg Ile Leu Phe
85 90 95

Arg Pro Val Ala Ser Gln Leu Pro Arg Ile Phe Thr Ser Ile Gly Glu
100 105 110

Asp Tyr Asp Glu Arg Val Leu Pro Ser Ile Thr Thr Glu Ile Leu Lys
115 120 125

Ser Val Val Ala Arg Phe Asp Ala Gly Glu Leu Ile Thr Gln Arg Glu
130 135 140

Leu Val Ser Arg Gln Val Ser Asp Asp Leu Thr Glu Arg Ala Ala Thr
145 150 155 160

Phe Gly Leu Ile Leu Asp Asp Val Ser Leu Thr His Leu Thr Phe Gly
165 170 175

Lys Glu Phe Thr Glu Ala Val Glu Ala Lys Gln Val Ala Gln Gln Glu
180 185 190

Ala Glu Arg Ala Arg Phe Val Val Glu Lys Ala Glu Gln Gln Lys Lys
195 200 205

Ala Ala Ile Ile Ser Ala Glu Gly Asp Ser Lys Ala Ala Glu Leu Ile
210 215 220

Ala Asn Ser Leu Ala Thr Ala Gly Asp Gly Leu Ile Glu Leu Arg Lys
225 230 235 240

Leu Glu Ala Ala Glu Asp Ile Ala Tyr Gln Leu Ser Arg Ser Arg Asn
245 250 255

Ile Thr Tyr Leu Pro Ala Gly Gln Ser Val Leu Leu Gln Leu Pro Gln
260 265 270

<210> 47
<211> 272
<212> PRT
<213> Rattus norvegicus

<400> 47

```
Met Ala Ala Lys Val Phe Glu Ser Ile Gly Lys Phe Gly Leu Ala Leu
  1               5                  10                  15

Ala Val Ala Gly Gly Val Val Asn Ser Ala Leu Tyr Asn Val Asp Ala
            20                  25                  30

Gly His Arg Ala Val Ile Phe Asp Arg Phe Arg Gly Val Gln Asp Ile
        35                  40                  45

Val Val Gly Glu Gly Thr His Phe Leu Ile Pro Trp Val Gln Lys Pro
    50                  55                  60

Ile Ile Phe Asp Cys Arg Ser Arg Pro Arg Asn Val Pro Val Ile Thr
65                  70                  75                  80

Gly Ser Lys Asp Leu Gln Asn Val Asn Ile Thr Leu Arg Ile Leu Phe
                85                  90                  95

Arg Pro Val Ala Ser Gln Leu Pro Arg Ile Tyr Thr Ser Ile Gly Glu
            100                 105                 110

Asp Tyr Asp Glu Arg Val Leu Pro Ser Ile Thr Thr Glu Ile Leu Lys
        115                 120                 125

Ser Val Val Ala Arg Phe Asp Ala Gly Glu Leu Ile Thr Gln Arg Glu
    130                 135                 140

Leu Val Ser Arg Gln Val Ser Asp Asp Leu Thr Glu Arg Ala Ala Thr
145                 150                 155                 160

Phe Gly Leu Ile Leu Asp Asp Val Ser Leu Thr His Leu Thr Phe Gly
                165                 170                 175

Lys Glu Phe Thr Glu Ala Val Glu Ala Lys Gln Val Ala Gln Gln Glu
            180                 185                 190

Ala Glu Arg Ala Arg Phe Val Val Glu Lys Ala Glu Gln Gln Lys Lys
        195                 200                 205

Ala Ala Ile Ile Ser Ala Glu Gly Asp Ser Lys Ala Ala Glu Leu Ile
    210                 215                 220

Ala Asn Ser Leu Ala Thr Ala Gly Asp Gly Leu Ile Glu Leu Arg Lys
225                 230                 235                 240

Leu Glu Ala Ala Glu Asp Ile Ala Tyr Gln Leu Ser Arg Ser Arg Asn
                245                 250                 255

Ile Thr Tyr Leu Pro Ala Gly Gln Ser Val Leu Leu Gln Leu Pro Gln
            260                 265                 270
```

<210> 48
<211> 1798
<212> PRT
<213> Drosophila melanogaster

<400> 48

```
Met Glu Met Arg Glu Val Leu Ser Arg Glu Gly Arg Glu Ala Lys Asn
  1               5                  10                  15

Leu Leu Val Tyr Gln Phe Cys Asp Glu Thr Thr Ser Ser Gly Ala Thr
            20                  25                  30

Ser Gly Phe Gly Ser Thr Gly Gly Asp Val Gly Gly Gly Ser Gly Gly
        35                  40                  45

Asp Gly Pro Ala Val Gly Ser Gly Gly Val Leu Leu Asn Gly Asp Cys
    50                  55                  60

Tyr Arg Lys Pro Pro Met Val Pro Pro Lys Ser Pro Asn Gly Thr Pro
65                  70                  75                  80

Lys Asn Cys Gln Ser Pro Thr Ser Pro Arg Leu Lys Ser Ser Ala Ser
                85                  90                  95

Val Gly Cys Gly Gly Gly Ser Ser Gly Gly Pro Arg Val Arg Ser Ala
            100                 105                 110

Ser Thr Gly Arg Asp Lys Lys Ser Glu Leu Gln Ala Arg Tyr Trp Ala
        115                 120                 125

Leu Leu Phe Gly Asn Leu Gln Arg Ala Ile Asn Glu Ile Tyr Gln Thr
    130                 135                 140

Val Glu Cys Tyr Glu Asn Ile Ser Ser Cys Gln Glu Thr Ile Leu Val
145                 150                 155                 160

Leu Glu Asn Tyr Val Arg Asp Phe Lys Ala Leu Cys Glu Trp Phe Lys
                165                 170                 175

Val Ser Trp Asp Tyr Glu Ser Arg Pro Leu Gln Gln Arg Pro Gln Ser
            180                 185                 190

Leu Ala Trp Glu Val Arg Lys Ser Asn Pro Thr Pro Arg Val Arg Thr
        195                 200                 205

Arg Ser Leu Cys Ser Pro Asn Asn Ser Gly Lys Ser Ser Pro Ala Leu
    210                 215                 220

Phe Pro Gly Thr Gln Ser Gly Glu Thr Ser Pro Phe Cys Asp Asn Gly
225                 230                 235                 240

Gln Ile Ser Pro Arg Lys Leu Leu Arg Ala Tyr Asp Gln Val Pro Lys
                245                 250                 255

Gly Ala Met Arg Leu Asn Val Arg Glu Leu Phe Ala Ala Ser Lys Arg
            260                 265                 270

Ala Thr Gln Gly Ser Ser Gln Ser Asp Asn Met Glu Gly Pro Leu Asp
        275                 280                 285

Leu Ser Gly Asp Lys Ser Asn Phe Val Leu Arg Ser Thr Gln Tyr Ala
    290                 295                 300
```

Gln Thr Asp Leu Glu Asp Pro His Leu Thr Leu Ala Asp Val Arg Glu
305 310 315 320

Lys Met Arg Met Glu Ala Glu Glu Arg Glu Ala Gln Asn Arg Ile Glu
325 330 335

Asn Glu Ala Leu Glu Glu Val Thr Ile Pro Ile Asp Asn Glu Asp Ala
340 345 350

Thr Glu Ser Leu Asn Lys Gln Glu Pro Ser Ser Leu Glu Leu Pro Ile
355 360 365

His Asn Val Ala Asp Leu Ser Lys Glu Pro Glu Leu Met Glu Ala Ala
370 375 380

Ser Glu Ala Thr Ala Leu Glu Met Thr Val Ala Ser Leu Glu Ser Met
385 390 395 400

Glu Asn Ala Leu Leu Asn Gln Gln Ala Asn Lys Glu Pro Thr Pro Pro
405 410 415

Ser Thr Val Ile Lys Pro Leu Ala Glu Ile Leu Lys Lys Pro Gln Pro
420 425 430

Leu Asn Pro Leu Ser Gly Asn Asn Val Gln Asn Ser Pro Leu Lys Tyr
435 440 445

Ser Ser Val Leu Asn Arg Pro Ser Lys Lys Met Ile Pro Pro Pro Gly
450 455 460

Gly Val Ala Ala Gln Lys Thr Ile Ser Thr Lys Pro Gly Leu Val Lys
465 470 475 480

Pro Asn Leu Thr Thr Thr Val Asn Gly Leu Arg Ser Thr Lys Thr Ala
485 490 495

Thr Ala Pro Pro Ala Ile Lys Thr Thr Gly Arg Ser Gly Leu Gln Arg
500 505 510

His Pro Arg Pro Ser Ser Lys Thr Glu Cys Tyr Gly Pro Pro Asn Asn
515 520 525

Val Ala Ser Arg Leu Ser Ala Arg Ser Arg Thr Ile Asn Thr Leu Lys
530 535 540

Ala Glu Asn Gln His Ser Glu Pro Lys Gln Ile Gln Pro Pro Thr Asp
545 550 555 560

Ala Asp Asp Gly Trp Leu Thr Val Lys Asn Arg Arg Arg Thr Ser Met
565 570 575

His Trp Ala Asn Arg Phe Asn Gln Pro Thr Gly Tyr Ala Ser Leu Pro
580 585 590

Thr Leu Ala Leu Leu Asn Glu Gln Gln Lys Glu Gln Glu His Lys Glu
595 600 605

Lys Gln Lys Gly Glu Asp Asp Gly Lys Val Ile Val Lys Thr Ile Ser
610 615 620

Ala Lys Thr Lys Ala Pro Ile Glu Val Ala Lys Ala Lys Ala Lys Thr
625 630 635 640

Ser Ile Val Ile Thr Arg Pro Glu Ile Lys Asn Ala Lys Ala Lys Val
645 650 655

Asn Ser Phe Pro Val Gln Lys Ser Asn Thr Asn Gln Val Lys Lys Pro
660 665 670

Glu Lys Gln Glu Lys Ser Asp Thr Thr Ala Pro Ala Ala Ile Ala Ser
675 680 685

Ser Arg Leu Lys Met Thr Ser Leu His Lys Glu Tyr Met Arg Ser Glu
690 695 700

Lys Asn Ala Leu Arg Lys Leu Gln Gln Lys Glu Gln Gly Asn Gln Gln
705 710 715 720

His Asn Ser Ser Ser Ser Ser Ala Glu Thr Val Val Glu Ser Cys Asn
725 730 735

Glu Asp His Ser Lys Ile Asp Ile Lys Ile Gln Thr Asn Cys Glu Phe
740 745 750

Ser Lys Thr Ile Gly Glu Leu Tyr Glu Ser Ile Ala His Cys Lys Leu
755 760 765

Pro Ser Gly Ser Leu Lys Thr Asn Ala Ser Thr Leu Ser Ala Cys Asp
770 775 780

Glu Asn Glu Glu Gln Asn Thr Asp Asp Asn Glu Glu Glu Arg Asn Glu
785 790 795 800

Arg Ile Leu Gly Glu Val Gln Glu Ser Leu Glu Arg Gln Ile Arg Glu
805 810 815

Leu Glu Gln Thr Glu Ile Asp Val Asp Thr Glu Thr Asp Glu Thr Asp
820 825 830

Cys Glu Val Gln Leu Glu Glu Gln Asp Asp Gly Val Asp Gly Leu Glu
835 840 845

Met Gly Ser Gly Asp Asp Ser Ala Val Phe Val Thr Met Ser Asp Asp
850 855 860

Glu Asn Ala Ser Leu Glu Leu Arg Tyr Gln Ala Leu Leu Ser Asp Met
865 870 875 880

Ser Trp Asn Glu Arg Ala Glu Ala Leu Ala Thr Leu Gln Ala Tyr Val
885 890 895

Ala Arg His Pro Gly Arg Ala Gln Glu Leu His Gln Lys Leu Ser Ser
900 905 910

Pro Ser Arg Arg Arg Ser Leu Gln Glu Thr Leu Lys Lys Tyr Gln Ala
915 920 925

Lys Gln Ala Arg Ala Gln Gln Lys Arg Asn Leu Leu Gln Gln Glu Lys
930 935 940

Ala Ala Lys Leu Gln Gln Leu Phe Ser Arg Val Glu Asp Val Lys Ala
945 950 955 960

Ala Lys Asn Gln Ile Ile Glu Asp Lys Arg Gln Lys Met Gln Gly Arg
965 970 975

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Leu Gln Arg Ala Ala Glu Asn Arg Glu Gln Tyr Leu Lys Gln Ile Ile
            980                 985                 990

Glu Lys Ala His Asp Glu Glu Lys Lys Leu Lys Glu Ile Asn Phe Ile
        995                1000                1005

Lys Asn Ile Glu Ala Gln Asn Lys Arg Leu Asp Leu Leu Glu Ser Ser
   1010                1015                1020

Lys Glu Thr Glu Gly Arg Leu Gln Asp Leu Glu Gln Glu Arg Gln Lys
1025                1030                1035                1040

Arg Val Glu Glu Lys Leu Ala Lys Glu Ala Ala Val Glu Arg Arg Arg
                1045                1050                1055

Gln Ala Leu Glu Lys Glu Arg Leu Leu Lys Leu Glu Lys Met Asn Glu
           1060                1065                1070

Thr Arg Leu Glu Lys Glu Gln Arg Ile Gly Lys Met Gln Glu Gln Lys
       1075                1080                1085

Glu Lys Gln Arg Gln Ala Leu Ala Arg Glu Lys Ala Arg Asp Arg Glu
   1090                1095                1100

Glu Arg Leu Leu Ala Leu Gln Val Gln Gln Gln Gln Thr Thr Glu Glu
1105                1110                1115                1120

Leu Gln Arg Lys Ile Leu Gln Lys Gln Met Glu Ser Ala Arg Arg His
                1125                1130                1135

Glu Glu Asn Ile Glu His Ile Arg Gln Arg Ala Leu Glu Leu Thr Ile
           1140                1145                1150

Pro Thr Arg Gln Ala Asp Glu Gly Arg Gly Asp Gln Asp Val Ser Glu
       1155                1160                1165

Asp Ile Leu Asn Gly Asn Ala Thr Ser Thr Thr Asn Glu Asp Cys Asp
   1170                1175                1180

Leu Ser Ser Ser Leu Ser Glu Val Gly Gly Asn Asn Ala His Thr Arg
1185                1190                1195                1200

Ser Tyr Lys Lys Lys Met Lys Lys Leu Lys Gln Arg Met Asn Gln Cys
                1205                1210                1215

Ala Ala Glu Tyr Leu Glu Ser Leu Glu Ala Leu Pro Ala His Ala Arg
           1220                1225                1230

Arg Asp Ser Thr Val Pro Lys Leu Leu Asn Leu Val Val Lys Gly Gly
       1235                1240                1245

Gly Ala Gln Gly Leu Asp Arg Asn Leu Gly Asn Leu Leu Arg Val Ile
   1250                1255                1260

Pro Lys Ala Gln Thr Leu Asp Phe Leu Ala Phe Leu Cys Met Asp Gly
1265                1270                1275                1280

Leu Gly Ile Leu Ala Asn His Val Ile Ser Lys Gly Met Asp Glu Asn
                1285                1290                1295

Ser Glu Ile Ser Arg Lys Ser Val Tyr Leu Ala Ala Gln Leu Tyr Arg
           1300                1305                1310
```

```
Asn Ala Cys Ser Val Cys Pro Gln Ile Ala Arg His Ala Leu Leu Gly
      1315                1320                1325

Asn Ser Ile Thr Val Leu Phe Asp Ala Ile Asn Lys Ser Phe Gln Val
   1330                1335                1340

Ile Leu Lys Ser Asn Arg Cys Thr Lys Glu Thr Phe Ser Asn Phe Trp
1345                1350                1355                1360

Pro Pro Lys Met Leu His Asn Lys Ser Val Ala Arg Gln Ser Ser Arg
               1365                1370                1375

Leu Glu Ala Leu Ser Leu Pro Glu Glu Lys Ser Pro Gln His Pro Val
           1380                1385                1390

Glu Leu Ser Thr Glu Leu Met Leu Ala Cys Thr Glu Ala Leu Ser Ser
      1395                1400                1405

Ser Tyr Val Lys Lys Asn Thr His Pro Lys Val Pro Glu Arg Leu Pro
   1410                1415                1420

Asp Met Ile Asn Asp Cys Arg Phe His Trp Gln Asp Val Asn Lys Glu
1425                1430                1435                1440

Asp Met Leu Ala Asp Glu Phe Arg Lys Tyr Lys Cys Tyr Glu Lys Asn
               1445                1450                1455

Pro Val Ile Ala Leu Pro His Pro Ser Leu Ser Ala Ser Leu Cys Arg
           1460                1465                1470

Ser Leu Ser Ala Thr Pro Leu Lys Ile Asn Leu His Gln Phe Leu Gly
      1475                1480                1485

Ser Gly Ile Leu Ile Leu Arg Leu Asn His His Arg His Pro Ala Thr
   1490                1495                1500

Gly Ala Ser Phe Ser Asp Ser Cys Cys Thr Cys Cys Pro Lys Leu Thr
1505                1510                1515                1520

Thr Glu Ala Ala Val Ala Ala Val Ala Ala His Gln His Gln His Gln
               1525                1530                1535

Asn Gln Gln Gln Gln Pro Asp Tyr Ala Val Ile Thr Gly Leu Ile Glu
           1540                1545                1550

Ile Leu Ser Arg Arg Ile Gln Lys Val Arg Glu Ser Ile Glu Ser Asn
      1555                1560                1565

Lys Ser Val Met Leu Ser Leu Leu Thr Thr Leu Gly Phe Leu Ser Arg
   1570                1575                1580

Phe Ile Asp Val Cys Gln Pro Gly Pro Ala Asp Pro Thr Arg Leu Leu
1585                1590                1595                1600

Ser Ala Ala Lys Ser Thr Glu Leu Phe Gly Thr Val Ser Met Leu Tyr
               1605                1610                1615

Gly Cys Val Met Pro Met Gly Glu Cys Ile Pro Pro Arg Thr Thr Ala
           1620                1625                1630

Leu Ala Ala Ser Thr Phe His Leu Tyr Val Ser Leu Ala Ser Leu Asp
      1635                1640                1645
```

Val Asn Thr Phe Gln Glu Thr Leu Thr Val Glu Gly Pro Leu Ser Leu
1650 1655 1660

Lys Leu Leu Asp Val Met Thr Val Ile Leu Asn Cys Ser Leu Val Asn
1665 1670 1675 1680

Asp Gln Trp Thr Thr Asn Ser Glu Ser Cys Pro Met Leu Ile Asp Leu
1685 1690 1695

Val Ala Ser Met Ala Phe Phe Cys Val Asn Asn Arg Arg His Gln Asp
1700 1705 1710

Leu Leu Ile Ser Glu Gln Tyr Ala Val Ile Phe Lys Arg Met Ala Lys
1715 1720 1725

Leu Pro Thr Gln Phe Asn Pro Val Ile Tyr Pro Phe Leu Val Thr Val
1730 1735 1740

Ser Phe Asn Asn Pro Pro Ala Arg Glu Phe Leu Ser Lys Asp Phe Asp
1745 1750 1755 1760

Leu Thr Phe Leu Asp Glu Tyr Ser Lys Ser Glu Met Ala Gln Arg Asn
1765 1770 1775

Val Val Ile Lys Leu Ile Asn Ser Arg Thr Lys Asp Lys Ile Ser Ala
1780 1785 1790

Gly Asn Lys Lys Asn Ala
1795

<210> 49
<211> 274
<212> PRT
<213> Toxocara canis

<400> 49
Met Ala Gly Ala Gln Lys Leu Leu Gly Arg Leu Gly Gln Ile Gly Val
1 5 10 15

Ala Leu Ala Val Thr Gly Gly Val Val Gln Ser Ala Leu Tyr Asn Val
20 25 30

Asp Gly Gly Gln Arg Ala Val Ile Phe Asp Arg Phe Thr Gly Val Lys
35 40 45

Pro Asp Val Val Gly Glu Gly Thr His Phe Leu Ile Pro Trp Val Gln
50 55 60

Arg Pro Ile Ile Phe Asp Ile Arg Ser Thr Pro Arg Ala Ile Ser Thr
65 70 75 80

Ile Thr Gly Ser Lys Asp Leu Gln Asn Val Ser Ile Thr Leu Arg Ile
85 90 95

Leu His Arg Pro Glu Pro Ser Lys Leu Pro Asn Ile Tyr Leu Asn Ile
100 105 110

Gly Gln Asp Tyr Ala Glu Arg Val Leu Pro Ser Ile Thr Asn Glu Val
115 120 125

Leu Lys Ala Val Val Ala Gln Phe Asp Ala His Glu Met Ile Thr Gln
130 135 140

```
Arg Glu Ser Val Ser His Arg Val Ser Val Glu Leu Ser Glu Arg Ala
145                 150                 155                 160

Arg Gln Phe Gly Ile Leu Leu Asp Asp Ile Ala Ile Thr His Leu Ser
                165                 170                 175

Phe Gly Arg Glu Phe Thr Glu Ala Val Glu Met Lys Gln Val Ala Gln
            180                 185                 190

Gln Glu Ala Glu Lys Ala Arg Tyr Leu Val Glu Thr Ala Glu Gln Met
        195                 200                 205

Lys Ile Ala Ala Ile Thr Thr Ala Glu Gly Asp Ala Gln Ala Ala Lys
    210                 215                 220

Leu Leu Ala Gln Ala Phe Lys Asp Ala Gly Asp Gly Leu Ile Glu Leu
225                 230                 235                 240

Arg Lys Ile Glu Ala Ala Glu Glu Ile Ala Glu Arg Met Ser Lys Thr
                245                 250                 255

Arg Asn Val Ile Tyr Leu Pro Gly Asn Gln Asn Thr Leu Phe Asn Leu
            260                 265                 270

Pro Ala
```

<210> 50
<211> 402
<212> PRT
<213> Caenorhabditis elegans

<400> 50

```
Met Glu Lys Tyr Lys Asn Glu Leu Glu Ile Phe Lys Arg Met Tyr Phe
  1               5                  10                  15

Lys Asn Tyr Pro Thr Ser Ser Lys Asp Glu Glu Ala Ala Ala Val Ile
            20                  25                  30

Gln Lys Gly Gly Glu Phe Ile Gln Glu Ile Leu Pro Thr Ile Ile Ser
        35                  40                  45

Thr Ser Arg Ala Tyr Asp Thr Asn Gln Lys Ala Leu Leu Leu Ala Glu
    50                  55                  60

Gly Gly Lys Met Tyr Asn Val Leu Glu Asp Tyr Asn Glu Thr Ala Glu
65                  70                  75                  80

Lys Met Leu Ser Lys Ser Val Arg Met Asn Pro Lys Asn Ala Asp Ala
                85                  90                  95

Trp His Glu Leu Gly Leu Cys Val Met Lys Arg Arg Asp Leu Glu Phe
            100                 105                 110

Ala Gln Ser Cys Phe Lys Ile Ala Leu Gly Ile Ser Lys Thr Ala Pro
        115                 120                 125

Ile Leu Thr Ser Leu Ala Val Ala Met Arg Leu Val Ala Leu Glu His
    130                 135                 140

Pro Glu Pro Ala Gln Ala Glu Ile Arg Thr Lys Ala Met Glu Leu Ile
```

145 150 155 160

Ile Glu Ala Arg Arg Leu Asp Ser Ala Tyr Gly Pro Ala Asn Ile Ala
165 170 175

Phe Ala Thr Gly Leu Phe Tyr Cys Phe Phe Ser Thr Ala Lys Val Glu
180 185 190

Leu Lys Phe Leu Asp Lys Val Ile Glu Asn Tyr Lys Lys Ala Leu Glu
195 200 205

Cys Glu Leu Ser Arg Thr Asp Pro Gln Val Tyr Ile Asn Met Ala Thr
210 215 220

Cys Leu Lys Phe Met Glu Lys Tyr Asp Glu Ala Leu Ala Val Leu Gln
225 230 235 240

Lys Ala Val Glu Tyr Asp Pro Arg Asn Glu Leu Glu Thr Arg Glu Lys
245 250 255

Leu Ala Ser Phe Val Ser Tyr Leu Ser Lys Phe Thr Asp Ala Ile Gln
260 265 270

Lys Lys Gly Lys Met Lys Ala Lys Arg Met Gln Glu Met Ile Asn Glu
275 280 285

Leu Lys Lys Ser Ser Asp Gly Phe Arg Ala Lys Ile Ile Gly Asn Ile
290 295 300

Gly His Asp Glu Thr Ile Pro Val Ala Leu Val Gly Val Asp Ala Ala
305 310 315 320

Gly Glu Val Tyr Gly Ile Thr Ile Tyr Asn Cys Leu Ser Asn Phe Gly
325 330 335

Phe Val Ile Gly Asp Thr Val Thr Ile Ala Lys Pro Asp Phe Arg Glu
340 345 350

Ile Lys Asn Leu Thr Ile Pro Ser Asp Pro Glu Ile His Val Asp Ser
355 360 365

Val Lys Trp Ile Arg Val Ala Thr Pro Thr Gln Met Lys Lys Asn Gly
370 375 380

Val Pro Leu Pro Glu Ser Val Leu Ala Arg Ala Val Ala Ser Thr Gln
385 390 395 400

Thr Lys

<210> 51
<211> 711
<212> PRT
<213> Homo sapiens

<400> 51
Met Gly Trp Leu Pro Leu Leu Leu Leu Leu Thr Gln Cys Leu Gly Val
1 5 10 15

Pro Gly Gln Arg Ser Pro Leu Asn Asp Phe Gln Val Leu Arg Gly Thr
20 25 30

```
Glu Leu Gln His Leu Leu His Ala Val Val Pro Gly Pro Trp Gln Glu
         35                  40                  45

Asp Val Ala Asp Ala Glu Glu Cys Ala Gly Arg Cys Gly Pro Leu Met
     50                  55                  60

Asp Cys Arg Ala Phe His Tyr Asn Val Ser Ser His Gly Cys Gln Leu
 65                  70                  75                  80

Leu Pro Trp Thr Gln His Ser Pro His Thr Arg Leu Arg Arg Ser Gly
                 85                  90                  95

Arg Cys Asp Leu Phe Gln Lys Lys Asp Tyr Val Arg Thr Cys Ile Met
            100                 105                 110

Asn Asn Gly Val Gly Tyr Arg Gly Thr Met Ala Thr Thr Val Gly Gly
        115                 120                 125

Leu Pro Cys Gln Ala Trp Ser His Lys Phe Pro Asn Asp His Lys Tyr
    130                 135                 140

Thr Pro Thr Leu Arg Asn Gly Leu Glu Glu Asn Phe Cys Arg Asn Pro
145                 150                 155                 160

Asp Gly Asp Pro Gly Gly Pro Trp Cys Tyr Thr Thr Asp Pro Ala Val
                165                 170                 175

Arg Phe Gln Ser Cys Gly Ile Lys Ser Cys Arg Glu Ala Ala Cys Val
            180                 185                 190

Trp Cys Asn Gly Glu Glu Tyr Arg Gly Ala Val Asp Arg Thr Glu Ser
        195                 200                 205

Gly Arg Glu Cys Gln Arg Trp Asp Leu Gln His Pro His Gln His Pro
    210                 215                 220

Phe Glu Pro Gly Lys Phe Leu Asp Gln Gly Leu Asp Asp Asn Tyr Cys
225                 230                 235                 240

Arg Asn Pro Asp Gly Ser Glu Arg Pro Trp Cys Tyr Thr Thr Asp Pro
                245                 250                 255

Gln Ile Glu Arg Glu Phe Cys Asp Leu Pro Arg Cys Gly Ser Glu Ala
            260                 265                 270

Gln Pro Arg Gln Glu Ala Thr Thr Val Ser Cys Phe Arg Gly Lys Gly
        275                 280                 285

Glu Gly Tyr Arg Gly Thr Ala Asn Thr Thr Thr Ala Gly Val Pro Cys
    290                 295                 300

Gln Arg Trp Asp Ala Gln Ile Pro His Gln His Arg Phe Thr Pro Glu
305                 310                 315                 320

Lys Tyr Ala Cys Lys Asp Leu Arg Glu Asn Phe Cys Arg Asn Pro Asp
                325                 330                 335

Gly Ser Glu Ala Pro Trp Cys Phe Thr Leu Arg Pro Gly Met Arg Ala
            340                 345                 350

Ala Phe Cys Tyr Gln Ile Arg Arg Cys Thr Asp Asp Val Arg Pro Gln
        355                 360                 365
```

```
Asp Cys Tyr His Gly Ala Gly Glu Gln Tyr Arg Gly Thr Val Ser Lys
    370                 375                 380

Thr Arg Lys Gly Val Gln Cys Gln Arg Trp Ser Ala Glu Thr Pro His
385                 390                 395                 400

Lys Pro Gln Phe Thr Phe Thr Ser Glu Pro His Ala Gln Leu Glu Glu
                405                 410                 415

Asn Phe Cys Arg Asn Pro Asp Gly Asp Ser His Gly Pro Trp Cys Tyr
            420                 425                 430

Thr Met Asp Pro Arg Thr Pro Phe Asp Tyr Cys Ala Leu Arg Arg Cys
        435                 440                 445

Ala Asp Asp Gln Pro Pro Ser Ile Leu Asp Pro Pro Asp Gln Val Gln
    450                 455                 460

Phe Glu Lys Cys Gly Lys Arg Val Asp Arg Leu Asp Gln Arg Arg Ser
465                 470                 475                 480

Lys Leu Arg Val Val Gly Gly His Pro Gly Asn Ser Pro Trp Thr Val
                485                 490                 495

Ser Leu Arg Asn Arg Gln Gly Gln His Phe Cys Gly Gly Ser Leu Val
            500                 505                 510

Lys Glu Gln Trp Ile Leu Thr Ala Arg Gln Cys Phe Ser Ser Cys His
        515                 520                 525

Met Pro Leu Thr Gly Tyr Glu Val Trp Leu Gly Thr Leu Phe Gln Asn
    530                 535                 540

Pro Gln His Gly Glu Pro Ser Leu Gln Arg Val Pro Val Ala Lys Met
545                 550                 555                 560

Val Cys Gly Pro Ser Gly Ser Gln Leu Val Leu Leu Lys Leu Glu Arg
                565                 570                 575

Ser Val Thr Leu Asn Gln Arg Val Ala Leu Ile Cys Leu Pro Pro Glu
            580                 585                 590

Trp Tyr Val Val Pro Pro Gly Thr Lys Cys Glu Ile Ala Gly Trp Gly
        595                 600                 605

Glu Thr Lys Gly Thr Gly Asn Asp Thr Val Leu Asn Val Ala Leu Leu
    610                 615                 620

Asn Val Ile Ser Asn Gln Glu Cys Asn Ile Lys His Arg Gly Arg Val
625                 630                 635                 640

Arg Glu Ser Glu Met Cys Thr Glu Gly Leu Leu Ala Pro Val Gly Ala
                645                 650                 655

Cys Glu Gly Asp Tyr Gly Gly Pro Leu Ala Cys Phe Thr His Asn Cys
            660                 665                 670

Trp Val Leu Glu Gly Ile Ile Ile Pro Asn Arg Val Cys Ala Arg Ser
        675                 680                 685

Arg Trp Pro Ala Val Phe Thr Arg Val Ser Val Phe Val Asp Trp Ile
    690                 695                 700
```

His Lys Val Met Arg Leu Gly
705 710

<210> 52
<211> 711
<212> PRT
<213> Homo sapiens

<400> 52
Met Gly Trp Leu Pro Leu Leu Leu Leu Thr Gln Cys Leu Gly Val
1 5 10 15

Pro Gly Gln Arg Ser Pro Leu Asn Asp Phe Gln Val Leu Arg Gly Thr
20 25 30

Glu Leu Gln His Leu Leu His Ala Val Val Pro Gly Pro Trp Gln Glu
35 40 45

Asp Val Ala Asp Ala Glu Glu Cys Ala Gly Arg Cys Gly Pro Leu Met
50 55 60

Asp Cys Arg Ala Phe His Tyr Asn Val Ser Ser His Gly Cys Gln Leu
65 70 75 80

Leu Pro Trp Thr Gln His Ser Pro His Thr Arg Leu Arg Arg Ser Gly
85 90 95

Arg Cys Asp Leu Phe Gln Lys Lys Asp Tyr Val Arg Thr Cys Ile Met
100 105 110

Asn Asn Gly Val Gly Tyr Arg Gly Thr Met Ala Thr Thr Val Gly Gly
115 120 125

Leu Pro Cys Gln Ala Trp Ser His Lys Phe Pro Asn Asp His Lys Tyr
130 135 140

Thr Pro Thr Leu Arg Asn Gly Leu Glu Glu Asn Phe Cys Arg Asn Pro
145 150 155 160

Asp Gly Asp Pro Gly Gly Pro Trp Cys Tyr Thr Thr Asp Pro Ala Val
165 170 175

Arg Phe Gln Ser Cys Gly Ile Lys Ser Cys Arg Glu Ala Ala Cys Val
180 185 190

Trp Cys Asn Gly Glu Glu Tyr Arg Gly Ala Val Asp Arg Thr Glu Ser
195 200 205

Gly Arg Glu Cys Gln Arg Trp Asp Leu Gln His Pro His Gln His Pro
210 215 220

Phe Glu Pro Gly Lys Phe Leu Asp Gln Gly Leu Asp Asp Asn Tyr Cys
225 230 235 240

Arg Asn Pro Asp Gly Ser Glu Arg Pro Trp Cys Tyr Thr Thr Asp Pro
245 250 255

Gln Ile Glu Arg Glu Phe Cys Asp Leu Pro Arg Cys Gly Ser Glu Ala
260 265 270

Gln Pro Arg Gln Glu Ala Thr Thr Val Ser Cys Phe Arg Gly Lys Gly
275 280 285

```
Glu Gly Tyr Arg Gly Thr Ala Asn Thr Thr Thr Ala Gly Val Pro Cys
    290                 295                 300

Gln Arg Trp Asp Ala Gln Ile Pro His Gln His Arg Phe Thr Pro Glu
305                 310                 315                 320

Lys Tyr Ala Cys Lys Asp Leu Arg Glu Asn Phe Cys Arg Asn Pro Asp
                325                 330                 335

Gly Ser Glu Ala Pro Trp Cys Phe Thr Leu Arg Pro Gly Met Arg Ala
            340                 345                 350

Ala Phe Cys Tyr Gln Ile Arg Arg Cys Thr Asp Asp Val Arg Pro Gln
        355                 360                 365

Asp Cys Tyr His Gly Ala Gly Glu Gln Tyr Arg Gly Thr Val Ser Lys
    370                 375                 380

Thr Arg Lys Gly Val Gln Cys Gln Arg Trp Ser Ala Glu Thr Pro His
385                 390                 395                 400

Lys Pro Gln Phe Thr Phe Thr Ser Glu Pro His Ala Gln Leu Glu Glu
                405                 410                 415

Asn Phe Cys Arg Asn Pro Asp Gly Asp Ser His Gly Pro Trp Cys Tyr
            420                 425                 430

Thr Met Asp Pro Arg Thr Pro Phe Asp Tyr Cys Ala Leu Arg Arg Cys
        435                 440                 445

Ala Asp Asp Gln Pro Pro Ser Ile Leu Asp Pro Pro Asp Gln Val Gln
    450                 455                 460

Phe Glu Lys Cys Gly Lys Arg Val Asp Arg Leu Asp Gln Arg Arg Ser
465                 470                 475                 480

Lys Leu Arg Val Val Gly Gly His Pro Gly Asn Ser Pro Trp Thr Val
                485                 490                 495

Ser Leu Arg Asn Arg Gln Gly Gln His Phe Cys Gly Gly Ser Leu Val
            500                 505                 510

Lys Glu Gln Trp Ile Leu Thr Ala Arg Gln Cys Phe Ser Ser Cys His
        515                 520                 525

Met Pro Leu Thr Gly Tyr Glu Val Trp Leu Gly Thr Leu Phe Gln Asn
    530                 535                 540

Pro Gln His Gly Glu Pro Ser Leu Gln Arg Val Pro Val Ala Lys Met
545                 550                 555                 560

Val Cys Gly Pro Ser Gly Ser Gln Leu Val Leu Leu Lys Leu Glu Arg
                565                 570                 575

Ser Val Thr Leu Asn Gln Arg Val Ala Leu Ile Cys Leu Pro Pro Glu
            580                 585                 590

Trp Tyr Val Val Pro Pro Gly Thr Lys Cys Glu Ile Ala Gly Trp Gly
        595                 600                 605

Glu Thr Lys Gly Thr Gly Asn Asp Thr Val Leu Asn Val Ala Phe Leu
    610                 615                 620
```

```
Asn Val Ile Ser Asn Gln Glu Cys Asn Ile Lys His Arg Gly Arg Val
625                 630                 635                 640

Arg Glu Ser Glu Met Cys Thr Glu Gly Leu Leu Ala Pro Val Gly Ala
                645                 650                 655

Cys Glu Gly Asp Tyr Gly Gly Pro Leu Ala Cys Phe Thr His Asn Cys
            660                 665                 670

Trp Val Leu Glu Gly Ile Ile Ile Pro Asn Arg Val Cys Ala Arg Ser
        675                 680                 685

Arg Trp Pro Ala Val Phe Thr Arg Val Ser Val Phe Val Asp Trp Ile
    690                 695                 700

His Lys Val Met Arg Leu Gly
705                 710
```

<210> 53
<211> 711
<212> PRT
<213> Homo sapiens

<400> 53

```
Met Gly Trp Leu Pro Leu Leu Leu Leu Leu Thr Gln Tyr Leu Gly Val
  1               5                  10                  15

Pro Gly Gln Arg Ser Pro Leu Asn Asp Phe Gln Val Leu Arg Gly Thr
             20                  25                  30

Glu Leu Gln His Leu Leu His Ala Val Val Pro Gly Pro Trp Gln Glu
         35                  40                  45

Asp Val Ala Asp Ala Glu Glu Cys Ala Gly Arg Cys Gly Pro Leu Met
     50                  55                  60

Asp Cys Arg Ala Phe His Tyr Asn Val Ser Ser His Gly Cys Gln Leu
 65                  70                  75                  80

Leu Pro Trp Thr Gln His Ser Pro His Thr Arg Leu Arg Arg Ser Gly
                 85                  90                  95

Arg Cys Asp Leu Phe Gln Lys Lys Asp Tyr Val Arg Thr Cys Ile Met
            100                 105                 110

Asn Asn Gly Val Gly Tyr Arg Gly Thr Met Ala Thr Thr Val Gly Gly
        115                 120                 125

Leu Pro Cys Gln Ala Trp Ser His Lys Phe Pro Asn Asp His Lys Tyr
    130                 135                 140

Thr Pro Thr Leu Arg Asn Gly Leu Glu Glu Asn Phe Cys Arg Asn Pro
145                 150                 155                 160

Asp Gly Asp Pro Gly Gly Pro Trp Cys Tyr Thr Thr Asp Pro Ala Val
                165                 170                 175

Arg Phe Gln Ser Cys Gly Ile Lys Ser Cys Arg Glu Ala Ala Cys Val
            180                 185                 190

Trp Cys Asn Gly Glu Glu Tyr Arg Gly Ala Val Asp Arg Thr Glu Ser
```

```
        195                 200                 205

Gly Arg Glu Cys Gln Arg Trp Asp Leu Gln His Pro His Gln His Pro
    210                 215                 220

Phe Glu Pro Gly Lys Phe Leu Asp Gln Gly Leu Asp Asp Asn Tyr Cys
225                 230                 235                 240

Arg Asn Pro Asp Gly Ser Glu Arg Pro Trp Cys Tyr Thr Thr Asp Pro
                245                 250                 255

Gln Ile Glu Arg Glu Phe Cys Asp Leu Pro Arg Cys Gly Ser Glu Ala
            260                 265                 270

Gln Pro Arg Gln Glu Ala Thr Thr Val Ser Cys Phe Arg Gly Lys Gly
        275                 280                 285

Glu Gly Tyr Arg Gly Thr Ala Asn Thr Thr Thr Ala Gly Val Pro Cys
    290                 295                 300

Gln Arg Trp Asp Ala Gln Ile Pro His Gln His Arg Phe Thr Pro Glu
305                 310                 315                 320

Lys Tyr Ala Cys Lys Asp Leu Arg Glu Asn Phe Cys Arg Asn Pro Asp
                325                 330                 335

Gly Ser Glu Ala Pro Trp Cys Phe Thr Leu Arg Pro Gly Met Arg Ala
            340                 345                 350

Ala Phe Cys Tyr Gln Ile Arg Arg Cys Thr Asp Asp Val Arg Pro Gln
        355                 360                 365

Asp Cys Tyr His Gly Ala Gly Glu Gln Tyr Arg Gly Thr Val Ser Lys
    370                 375                 380

Thr Arg Lys Gly Val Gln Cys Gln Arg Trp Ser Ala Glu Thr Pro His
385                 390                 395                 400

Lys Pro Gln Phe Thr Phe Thr Ser Glu Pro His Ala Gln Leu Glu Glu
                405                 410                 415

Asn Phe Cys Arg Asn Pro Asp Gly Asp Ser His Gly Pro Trp Cys Tyr
            420                 425                 430

Thr Met Asp Pro Arg Thr Pro Phe Asp Tyr Cys Ala Leu Arg Arg Cys
        435                 440                 445

Ala Asp Asp Gln Pro Pro Ser Ile Leu Asp Pro Pro Asp Gln Val Gln
    450                 455                 460

Phe Glu Lys Cys Gly Lys Arg Val Asp Arg Leu Asp Gln Arg Arg Ser
465                 470                 475                 480

Lys Leu Arg Val Val Gly Gly His Pro Gly Asn Ser Pro Trp Thr Val
                485                 490                 495

Ser Leu Arg Asn Arg Gln Gly Gln His Phe Cys Gly Gly Ser Leu Val
            500                 505                 510

Lys Glu Gln Trp Ile Leu Thr Ala Arg Gln Cys Phe Ser Ser Cys His
        515                 520                 525

Met Pro Leu Thr Gly Tyr Glu Val Trp Leu Gly Thr Leu Phe Gln Asn
```

530 535 540

Pro Gln His Gly Glu Pro Ser Leu Gln Arg Val Pro Val Ala Lys Met
545 550 555 560

Val Cys Gly Pro Ser Gly Ser Gln Leu Val Leu Leu Lys Leu Glu Arg
565 570 575

Ser Val Thr Leu Asn Gln Arg Val Ala Leu Ile Cys Leu Pro Pro Glu
580 585 590

Trp Tyr Val Val Pro Pro Gly Thr Lys Cys Glu Ile Ala Gly Trp Gly
595 600 605

Glu Thr Lys Gly Thr Gly Asn Asp Thr Val Leu Asn Val Ala Leu Leu
610 615 620

Asn Val Ile Ser Asn Gln Glu Cys Asn Ile Lys His Arg Gly Arg Val
625 630 635 640

Arg Glu Ser Glu Met Cys Thr Glu Gly Leu Leu Ala Pro Val Gly Ala
645 650 655

Cys Glu Gly Asp Tyr Gly Gly Pro Leu Ala Cys Phe Thr His Asn Cys
660 665 670

Trp Val Leu Glu Gly Ile Ile Ile Pro Asn Arg Val Cys Ala Arg Ser
675 680 685

Arg Trp Pro Ala Val Phe Thr Arg Val Ser Val Phe Val Asp Trp Ile
690 695 700

His Lys Val Met Arg Leu Gly
705 710

<210> 54
<211> 529
<212> PRT
<213> Homo sapiens

<400> 54
Met Asp Cys Arg Ala Phe His Tyr Asn Val Ser Ser His Gly Cys Gln
1 5 10 15

Leu Leu Pro Trp Thr Gln His Ser Pro His Thr Arg Leu Arg His Ser
20 25 30

Gly Arg Cys Asp Leu Phe Gln Glu Lys Asp Tyr Ile Arg Thr Cys Ile
35 40 45

Met Asn Asn Gly Val Gly Tyr Arg Gly Thr Met Ala Thr Thr Val Gly
50 55 60

Gly Leu Ser Cys Gln Ala Trp Ser His Lys Phe Pro Asn Asp His Gln
65 70 75 80

Tyr Met Pro Thr Leu Arg Asn Gly Leu Glu Glu Asn Phe Cys Arg Asn
85 90 95

Pro Asp Gly Asp Pro Gly Gly Pro Trp Cys His Thr Thr Asp Pro Ala
100 105 110

```
Val Arg Phe Gln Ser Cys Gly Ile Lys Ser Cys Arg Val Ala Ala Cys
        115                 120                 125

Val Trp Cys Asn Gly Glu Glu Tyr Arg Gly Ala Val Asp Arg Thr Glu
    130                 135                 140

Ser Gly Arg Glu Cys Gln Arg Trp Asp Leu Gln His Pro His Gln His
145                 150                 155                 160

Pro Phe Glu Pro Gly Lys Phe Leu Asp Gln Gly Leu Asp Asp Asn Tyr
                165                 170                 175

Cys Arg Asn Pro Asp Gly Ser Glu Arg Pro Trp Cys Tyr Thr Thr Asp
            180                 185                 190

Pro Gln Ile Glu Arg Glu Phe Cys Asp Leu Pro Arg Cys Gly Ser Glu
        195                 200                 205

Ala Gln Pro Arg Gln Glu Ala Thr Ser Val Ser Cys Phe Arg Gly Lys
    210                 215                 220

Gly Glu Gly Tyr Arg Gly Thr Ala Asn Thr Thr Thr Ala Gly Val Pro
225                 230                 235                 240

Cys Gln Arg Trp Asp Ala Gln Ile Pro His Gln His Arg Phe Thr Pro
                245                 250                 255

Glu Lys Tyr Ala Cys Lys Asp Leu Arg Glu Asn Phe Cys Arg Asn Pro
            260                 265                 270

Asp Gly Ser Glu Ala Pro Trp Cys Phe Thr Leu Arg Pro Gly Met Arg
        275                 280                 285

Val Gly Phe Cys Tyr Gln Ile Arg Arg Cys Thr Asp Asp Val Arg Pro
    290                 295                 300

Gln Asp Cys Tyr His Gly Ala Gly Glu Gln Tyr Arg Gly Thr Val Ser
305                 310                 315                 320

Lys Thr Arg Lys Gly Val Gln Cys Gln Arg Gly Ser Ala Glu Thr Pro
                325                 330                 335

His Lys Pro Gln Phe Thr Phe Thr Ser Glu Pro His Ala Gln Leu Glu
            340                 345                 350

Glu Asn Phe Cys Gln Thr Gln Met Gly Ile Ala Met Gly Pro Gly Ala
        355                 360                 365

Thr Arg Trp Thr Gln Gly Pro His Ser Thr Thr Val Pro Cys Asp Ala
    370                 375                 380

Ala Leu Met Thr Ser Arg His Gln Ser Trp Thr Pro Gln Thr Arg Cys
385                 390                 395                 400

Ser Leu Arg Ser Val Ala Arg Gly Trp Ile Gly Trp Ile Ser Val Val
                405                 410                 415

Pro Ser Cys Ala Trp Leu Gly Ala Ile Arg Ala Thr His Pro Gly Gln
            420                 425                 430

Ser Ala Cys Gly Ile Gly Gln Gly Gln His Phe Cys Gly Gly Ser Leu
        435                 440                 445
```

```
Val Lys Glu Gln Trp Ile Leu Thr Ala Arg Gln Cys Phe Ser Ser Cys
    450                 455                 460

His Met Pro Leu Thr Gly Tyr Glu Val Trp Leu Gly Thr Leu Phe Gln
465                 470                 475                 480

Asn Pro Gln His Gly Glu Pro Gly Leu Gln Arg Val Pro Val Ala Lys
                485                 490                 495

Met Leu Cys Gly Pro Ser Gly Ser Gln Leu Val Leu Leu Lys Leu Glu
            500                 505                 510

Arg Ser Val Thr Leu Asn Gln Arg Val Ala Leu Ile Cys Leu Pro Pro
        515                 520                 525

Glu
```

<210> 55
<211> 716
<212> PRT
<213> Mus musculus

<400> 55

```
Met Gly Trp Leu Pro Leu Leu Leu Leu Leu Val Gln Cys Ser Arg Ala
  1               5                  10                  15

Leu Gly Gln Arg Ser Pro Leu Asn Asp Phe Gln Leu Phe Arg Gly Thr
            20                  25                  30

Glu Leu Arg Asn Leu Leu His Thr Ala Val Pro Gly Pro Trp Gln Glu
        35                  40                  45

Asp Val Ala Asp Ala Glu Glu Cys Ala Arg Arg Cys Gly Pro Leu Leu
    50                  55                  60

Asp Cys Arg Ala Phe His Tyr Asn Met Ser Ser His Gly Cys Gln Leu
65                  70                  75                  80

Leu Pro Trp Thr Gln His Ser Leu His Thr Gln Leu Tyr His Ser Ser
                85                  90                  95

Leu Cys His Leu Phe Gln Lys Lys Asp Tyr Val Arg Thr Cys Ile Met
            100                 105                 110

Asp Asn Gly Val Ser Tyr Arg Gly Thr Val Ala Arg Thr Ala Gly Gly
        115                 120                 125

Leu Pro Cys Gln Ala Trp Ser Arg Arg Phe Pro Asn Asp His Lys Tyr
    130                 135                 140

Thr Pro Thr Pro Lys Asn Gly Leu Glu Glu Asn Phe Cys Arg Asn Pro
145                 150                 155                 160

Asp Gly Asp Pro Arg Gly Pro Trp Cys Tyr Thr Thr Asn Arg Ser Val
                165                 170                 175

Arg Phe Gln Ser Cys Gly Ile Lys Thr Cys Arg Glu Ala Val Cys Val
            180                 185                 190

Leu Cys Asn Gly Glu Asp Tyr Arg Gly Glu Val Asp Val Thr Glu Ser
        195                 200                 205
```

```
Gly Arg Glu Cys Gln Arg Trp Asp Leu Gln His Pro His Ser His Pro
    210                 215                 220

Phe Gln Pro Glu Lys Phe Leu Asp Lys Asp Leu Lys Asp Asn Tyr Cys
225                 230                 235                 240

Arg Asn Pro Asp Gly Ser Glu Arg Pro Trp Cys Tyr Thr Thr Asp Pro
                245                 250                 255

Asn Val Glu Arg Glu Phe Cys Asp Leu Pro Ser Cys Gly Pro Asn Leu
            260                 265                 270

Pro Pro Thr Val Lys Gly Ser Lys Ser Gln Arg Arg Asn Lys Gly Lys
        275                 280                 285

Ala Leu Asn Cys Phe Arg Gly Lys Gly Glu Asp Tyr Arg Gly Thr Thr
    290                 295                 300

Asn Thr Thr Ser Ala Gly Val Pro Cys Gln Arg Trp Asp Ala Gln Ser
305                 310                 315                 320

Pro His Gln His Arg Phe Val Pro Glu Lys Tyr Ala Cys Lys Asp Leu
                325                 330                 335

Arg Glu Asn Phe Cys Arg Asn Pro Asp Gly Ser Glu Ala Pro Trp Cys
            340                 345                 350

Phe Thr Ser Arg Pro Gly Leu Arg Met Ala Phe Cys His Gln Ile Pro
        355                 360                 365

Arg Cys Thr Glu Glu Leu Val Pro Glu Gly Cys Tyr His Gly Ser Gly
    370                 375                 380

Glu Gln Tyr Arg Gly Ser Val Ser Lys Thr Arg Lys Gly Val Gln Cys
385                 390                 395                 400

Gln His Trp Ser Ser Glu Thr Pro His Lys Pro Gln Phe Thr Pro Thr
                405                 410                 415

Ser Ala Pro Gln Ala Gly Leu Glu Ala Asn Phe Cys Arg Asn Pro Asp
            420                 425                 430

Gly Asp Ser His Gly Pro Trp Cys Tyr Thr Leu Asp Pro Asp Ile Leu
        435                 440                 445

Phe Asp Tyr Cys Ala Leu Gln Arg Cys Asp Asp Asp Gln Pro Pro Ser
    450                 455                 460

Ile Leu Asp Pro Pro Asp Gln Val Val Phe Glu Lys Cys Gly Lys Arg
465                 470                 475                 480

Val Asp Lys Ser Asn Lys Leu Arg Val Val Gly Gly His Pro Gly Asn
                485                 490                 495

Ser Pro Trp Thr Val Ser Leu Arg Asn Arg Gln Gly Gln His Phe Cys
            500                 505                 510

Gly Gly Ser Leu Val Lys Glu Gln Trp Val Leu Thr Ala Arg Gln Cys
        515                 520                 525

Ile Trp Ser Cys His Glu Pro Leu Thr Gly Tyr Glu Val Trp Leu Gly
    530                 535                 540
```

```
Thr Ile Asn Gln Asn Pro Gln Pro Gly Glu Ala Asn Leu Gln Arg Val
545                 550                 555                 560

Pro Val Ala Lys Ala Val Cys Gly Pro Ala Gly Ser Gln Leu Val Leu
                565                 570                 575

Leu Lys Leu Glu Arg Pro Val Ile Leu Asn His His Val Ala Leu Ile
            580                 585                 590

Cys Leu Pro Pro Glu Gln Tyr Val Val Pro Pro Gly Thr Lys Cys Glu
        595                 600                 605

Ile Ala Gly Trp Gly Glu Ser Ile Gly Thr Ser Asn Asn Thr Val Leu
    610                 615                 620

His Val Ala Ser Met Asn Val Ile Ser Asn Gln Glu Cys Asn Thr Lys
625                 630                 635                 640

Tyr Arg Gly His Ile Gln Glu Ser Glu Ile Cys Thr Gln Gly Leu Val
                645                 650                 655

Val Pro Val Gly Ala Cys Glu Gly Asp Tyr Gly Gly Pro Leu Ala Cys
            660                 665                 670

Tyr Thr His Asp Cys Trp Val Leu Gln Gly Leu Ile Ile Pro Asn Arg
        675                 680                 685

Val Cys Ala Arg Pro Arg Trp Pro Ala Ile Phe Thr Arg Val Ser Val
    690                 695                 700

Phe Val Asp Trp Ile Asn Lys Val Met Gln Leu Glu
705                 710                 715
```

<210> 56
<211> 135
<212> PRT
<213> Homo sapiens

<400> 56

```
Met Ala Thr Val Gln Gln Leu Glu Gly Arg Trp Arg Leu Val Asp Ser
  1               5                  10                  15

Lys Gly Phe Asp Glu Tyr Met Lys Glu Leu Gly Val Gly Ile Ala Leu
            20                  25                  30

Arg Lys Met Gly Ala Met Ala Lys Pro Asp Cys Ile Val Thr Cys Asp
        35                  40                  45

Gly Lys Asn Leu Thr Ile Lys Thr Glu Ser Thr Leu Lys Thr Thr Gln
    50                  55                  60

Phe Ser Cys Pro Leu Gly Glu Lys Phe Glu Glu Thr Thr Ala Asp Gly
65                  70                  75                  80

Arg Lys Thr Gln Thr Val Cys Asn Phe Thr Asp Gly Ala Leu Val Gln
                85                  90                  95

His Gln Glu Trp Asp Gly Lys Glu Ser Thr Ile Thr Arg Lys Leu Lys
            100                 105                 110

Asp Gly Lys Leu Val Val Glu Cys Val Met Asn His Val Ala Cys Thr
```

115 120 125

Arg Ile Tyr Glu Lys Val Glu
130 135

<210> 57
<211> 135
<212> PRT
<213> Homo sapiens

<400> 57
Met Ala Thr Val Gln Gln Leu Glu Gly Arg Trp Arg Leu Val Asp Ser
1 5 10 15

Lys Gly Phe Asp Glu Tyr Met Lys Glu Leu Gly Val Gly Ile Ala Leu
20 25 30

Arg Lys Met Gly Ala Met Ala Lys Pro Asp Cys Ile Ile Thr Cys Asp
35 40 45

Gly Lys Asn Leu Thr Ile Lys Thr Glu Ser Thr Leu Lys Thr Thr Gln
50 55 60

Phe Ser Cys Thr Leu Gly Glu Lys Phe Glu Glu Thr Thr Ala Asp Gly
65 70 75 80

Arg Lys Thr Gln Thr Val Cys Asn Phe Thr Asp Gly Ala Leu Val Gln
85 90 95

His Gln Glu Trp Asp Gly Lys Glu Ser Thr Ile Thr Arg Lys Leu Lys
100 105 110

Asp Gly Lys Leu Val Val Glu Cys Val Met Asn Asn Val Thr Cys Thr
115 120 125

Arg Ile Tyr Glu Lys Val Glu
130 135

<210> 58
<211> 135
<212> PRT
<213> Homo sapiens

<400> 58
Met Ala Thr Val Gln Gln Leu Glu Gly Arg Trp Arg Leu Val Asp Ser
1 5 10 15

Arg Gly Phe Asp Glu Tyr Val Lys Glu Leu Gly Val Gly Ile Ala Leu
20 25 30

Arg Lys Met Asp Thr Ile Ala Lys Pro Asp Cys Ile Ile Thr Cys Asp
35 40 45

Gly Lys Asn Leu Thr Ile Lys Thr Glu Ser Thr Leu Lys Thr Thr Gln
50 55 60

Phe Ser Cys Thr Leu Gly Glu Asn Phe Glu Glu Thr Thr Ala Asp Gly
65 70 75 80

Arg Lys Thr Gln Thr Val Cys Asn Phe Thr Asp Gly Ala Leu Val Gln
85 90 95

```
His Gln Glu Trp Asp Gly Lys Glu Asn Thr Ile Arg Arg Lys Leu Lys
            100                 105                 110

Asp Gly Lys Leu Val Val Asp Cys Val Met Asn Ser Val Thr Cys Thr
        115                 120                 125

Arg Ile Tyr Glu Lys Val Glu
    130                 135
```

<210> 59
<211> 135
<212> PRT
<213> Homo sapiens

<400> 59

```
Met Ala Thr Val Gln Gln Leu Glu Gly Arg Trp Arg Leu Leu Asp Ser
  1               5                  10                  15

Lys Gly Phe Asp Glu Tyr Met Lys Glu Leu Gly Val Gly Ile Ala Leu
            20                  25                  30

Gln Lys Met Gly Ala Met Ala Lys Pro Asp Cys Ile Ile Thr Cys Asp
        35                  40                  45

Gly Arg Asn Leu Thr Thr Lys Thr Glu Ser Thr Leu Lys Thr Thr Gln
     50                  55                  60

Phe Ser Cys Thr Leu Gly Asp Glu Phe Glu Glu Thr Thr Ala Asp Gly
 65                  70                  75                  80

Arg Lys Thr Gln Thr Val Cys Asn Phe Thr Asp Gly Ala Leu Val Gln
                85                  90                  95

His Gln Glu Trp Asp Gly Lys Glu Ser Thr Ile Thr Arg Lys Leu Lys
            100                 105                 110

Asp Gly Lys Leu Val Val Glu Cys Val Met Asn Asn Val Thr Cys Thr
        115                 120                 125

Arg Ile Tyr Glu Lys Val Glu
    130                 135
```

<210> 60
<211> 135
<212> PRT
<213> Bos taurus

<400> 60

```
Met Ala Thr Val Gln Gln Leu Val Gly Arg Trp Arg Leu Val Glu Ser
  1               5                  10                  15

Lys Gly Phe Asp Glu Tyr Met Lys Glu Val Gly Val Gly Met Ala Leu
            20                  25                  30

Arg Lys Val Gly Ala Met Ala Lys Pro Asp Cys Ile Ile Thr Ser Asp
        35                  40                  45

Gly Lys Asn Leu Ser Ile Lys Thr Glu Ser Thr Leu Lys Thr Thr Gln
     50                  55                  60
```

```
Phe Ser Cys Lys Leu Gly Glu Lys Phe Glu Glu Thr Thr Ala Asp Gly
 65                  70                  75                  80

Arg Lys Thr Gln Thr Val Cys Asn Phe Thr Asp Gly Ala Leu Val Gln
                85                  90                  95

His Gln Glu Trp Asp Gly Lys Glu Ser Thr Ile Thr Arg Lys Leu Glu
            100                 105                 110

Asp Gly Lys Leu Val Val Val Cys Val Met Asn Asn Val Thr Cys Thr
        115                 120                 125

Arg Val Tyr Glu Lys Val Glu
    130                 135
```

<210> 61
<211> 266
<212> PRT
<213> Homo sapiens

<400> 61

```
Met Asn Trp Ala Phe Leu Gln Gly Leu Leu Ser Gly Val Asn Lys Tyr
  1               5                  10                  15

Ser Thr Val Leu Ser Arg Ile Trp Leu Ser Val Val Phe Ile Phe Arg
            20                  25                  30

Val Leu Val Tyr Val Val Ala Ala Glu Glu Val Trp Asp Asp Glu Gln
        35                  40                  45

Lys Asp Phe Val Cys Asn Thr Lys Gln Pro Gly Cys Pro Asn Val Cys
    50                  55                  60

Tyr Asp Glu Phe Phe Pro Val Ser His Val Arg Leu Trp Ala Leu Gln
 65                  70                  75                  80

Leu Ile Leu Val Thr Cys Pro Ser Leu Leu Val Val Met His Val Ala
                85                  90                  95

Tyr Arg Glu Glu Arg Glu Arg Lys His His Leu Lys His Gly Pro Asn
            100                 105                 110

Ala Pro Ser Leu Tyr Asp Asn Leu Ser Lys Lys Arg Gly Gly Leu Trp
        115                 120                 125

Trp Thr Tyr Leu Leu Ser Leu Ile Phe Lys Ala Ala Val Asp Ala Gly
    130                 135                 140

Phe Leu Tyr Ile Phe His Arg Leu Tyr Lys Asp Tyr Asp Met Pro Arg
145                 150                 155                 160

Val Val Ala Cys Ser Val Glu Pro Cys Pro His Thr Val Asp Cys Tyr
                165                 170                 175

Ile Ser Arg Pro Thr Glu Lys Lys Val Phe Thr Tyr Phe Met Val Thr
            180                 185                 190

Thr Ala Ala Ile Cys Ile Leu Leu Asn Leu Ser Glu Val Phe Tyr Leu
        195                 200                 205

Val Gly Lys Arg Cys Met Glu Ile Phe Gly Pro Arg His Arg Arg Pro
    210                 215                 220
```

```
Arg Cys Arg Glu Cys Leu Pro Asp Thr Cys Pro Pro Tyr Val Leu Ser
225                 230                 235                 240

Gln Gly Gly His Pro Glu Asp Gly Asn Ser Val Leu Met Lys Ala Gly
                245                 250                 255

Ser Ala Pro Val Asp Ala Gly Gly Tyr Pro
            260                 265
```

<210> 62
<211> 265
<212> PRT
<213> Rattus norvegicus

<400> 62

```
Met Asn Trp Gly Phe Leu Gln Gly Ile Leu Ser Gly Val Asn Lys Tyr
  1               5                  10                  15

Ser Thr Ala Leu Gly Arg Ile Trp Leu Ser Val Val Phe Ile Phe Arg
            20                  25                  30

Val Leu Val Tyr Val Val Ala Ala Glu Glu Val Trp Asp Asp Glu Gln
        35                  40                  45

Lys Asp Phe Ile Cys Asn Thr Lys Gln Pro Gly Cys Pro Asn Val Cys
    50                  55                  60

Tyr Asp Glu Phe Phe Pro Val Ser His Val Arg Leu Trp Ala Leu Gln
65                  70                  75                  80

Leu Ile Leu Val Thr Cys Pro Ser Leu Leu Val Val Met His Val Ala
                85                  90                  95

Tyr Arg Glu Glu Arg Glu Arg Lys His Arg Leu Lys His Gly Pro Asp
            100                 105                 110

Ala Pro Ala Leu Tyr Ser Asn Leu Ser Lys Lys Arg Gly Gly Leu Trp
        115                 120                 125

Trp Thr Tyr Leu Leu Ser Leu Ile Phe Lys Ala Ala Val Asp Ser Gly
    130                 135                 140

Phe Leu Tyr Ile Phe His Cys Ile Tyr Lys Asp Tyr Asp Met Pro Arg
145                 150                 155                 160

Val Val Ala Cys Ser Val Gln Pro Cys Pro His Thr Val Asp Cys Tyr
                165                 170                 175

Ile Ser Arg Pro Thr Glu Lys Lys Val Phe Thr Tyr Phe Met Val Val
            180                 185                 190

Thr Ala Ala Ile Cys Ile Leu Leu Asn Leu Ser Glu Val Ala Tyr Leu
        195                 200                 205

Val Gly Lys Arg Cys Met Glu Val Phe Arg Pro Arg Arg Gln Lys Thr
    210                 215                 220

Ser Arg Arg His Gln Leu Pro Asp Thr Cys Pro Pro Tyr Val Ile Ser
225                 230                 235                 240

Lys Gly His Pro Gln Asp Glu Ser Thr Val Leu Thr Lys Ala Gly Met
```

245 250 255

Ala Thr Val Asp Ala Gly Val Tyr Pro
260 265

<210> 63
<211> 266
<212> PRT
<213> Mus musculus

<400> 63
Met Asn Trp Gly Phe Leu Gln Gly Ile Leu Ser Gly Val Asn Lys Tyr
1 5 10 15

Ser Thr Ala Leu Gly Arg Ile Trp Leu Ser Val Val Phe Ile Phe Arg
20 25 30

Val Leu Val Tyr Val Val Ala Ala Glu Glu Val Trp Asp Asp Asp Gln
35 40 45

Lys Asp Phe Ile Cys Asn Thr Lys Gln Pro Gly Cys Pro Asn Val Cys
50 55 60

Tyr Asp Glu Phe Phe Pro Val Ser His Val Arg Leu Trp Ala Leu Gln
65 70 75 80

Leu Ile Leu Val Thr Cys Pro Ser Leu Leu Val Val Met His Val Ala
85 90 95

Tyr Arg Glu Glu Arg Glu Arg Lys His Arg Leu Lys His Gly Pro Asn
100 105 110

Ala Pro Ala Leu Tyr Ser Asn Leu Ser Lys Lys Arg Gly Gly Leu Trp
115 120 125

Trp Thr Tyr Leu Leu Ser Leu Ile Phe Lys Ala Ala Val Asp Ser Gly
130 135 140

Phe Leu Tyr Ile Phe His Cys Ile Tyr Lys Asp Tyr Asp Met Pro Arg
145 150 155 160

Val Val Ala Cys Ser Val Thr Pro Cys Pro His Thr Val Asp Cys Tyr
165 170 175

Ile Ala Arg Pro Thr Glu Lys Lys Val Phe Thr Tyr Phe Met Val Val
180 185 190

Thr Ala Ala Ile Cys Ile Leu Leu Asn Leu Ser Glu Val Val Tyr Leu
195 200 205

Val Gly Lys Arg Cys Met Glu Val Phe Arg Pro Arg Arg Arg Lys Ala
210 215 220

Ser Arg Arg His Gln Leu Pro Asp Thr Cys Pro Pro Tyr Val Ile Ser
225 230 235 240

Lys Gly Gly His Pro Gln Asp Glu Ser Val Ile Leu Thr Lys Ala Gly
245 250 255

Met Ala Thr Val Asp Ala Gly Val Tyr Pro
260 265

<210> 64
<211> 273
<212> PRT
<213> Homo sapiens

<400> 64

```
Met Asn Trp Ser Ile Phe Glu Gly Leu Leu Ser Gly Val Asn Lys Tyr
  1               5                  10                  15

Ser Thr Ala Phe Gly Arg Ile Trp Leu Ser Leu Val Phe Ile Phe Arg
             20                  25                  30

Val Leu Val Tyr Leu Val Thr Ala Glu Arg Val Trp Ser Asp Asp His
         35                  40                  45

Lys Asp Phe Asp Cys Asn Thr Arg Gln Pro Gly Cys Ser Asn Val Cys
     50                  55                  60

Phe Asp Glu Phe Phe Pro Val Ser His Val Arg Leu Trp Ala Leu Gln
 65                  70                  75                  80

Leu Ile Leu Val Thr Cys Pro Ser Leu Leu Val Val Met His Val Ala
                 85                  90                  95

Tyr Arg Glu Val Gln Glu Lys Arg His Arg Glu Ala His Gly Glu Asn
            100                 105                 110

Ser Gly Arg Leu Tyr Leu Asn Pro Gly Lys Lys Arg Gly Gly Leu Trp
        115                 120                 125

Trp Thr Tyr Val Cys Ser Leu Val Phe Lys Ala Ser Val Asp Ile Ala
    130                 135                 140

Phe Leu Tyr Val Phe His Ser Phe Tyr Pro Lys Tyr Ile Leu Pro Pro
145                 150                 155                 160

Val Val Lys Cys His Ala Asp Pro Cys Pro Asn Ile Val Asp Cys Phe
                165                 170                 175

Ile Ser Lys Pro Ser Glu Lys Asn Ile Phe Thr Leu Phe Met Val Ala
            180                 185                 190

Thr Ala Ala Ile Cys Ile Leu Leu Asn Leu Val Glu Leu Ile Tyr Leu
        195                 200                 205

Val Ser Lys Arg Cys His Glu Cys Leu Ala Ala Arg Lys Ala Gln Ala
    210                 215                 220

Met Cys Thr Gly His His Pro His Gly Thr Thr Ser Ser Cys Lys Gln
225                 230                 235                 240

Asp Asp Leu Leu Ser Gly Asp Leu Ile Phe Leu Gly Ser Asp Ser His
                245                 250                 255

Pro Pro Leu Leu Pro Asp Arg Pro Arg Asp His Val Lys Lys Thr Ile
            260                 265                 270

Leu
```

<210> 65

<211> 273
<212> PRT
<213> Homo sapiens

<220>
<221> VARIANT
<222> (41)
<223> Wherein Xaa is any amino acid.

<400> 65

```
Met Asn Trp Ser Ile Phe Glu Gly Leu Leu Ser Gly Val Asn Lys Tyr
  1               5                  10                  15

Ser Thr Ala Phe Gly Arg Ile Trp Leu Ser Leu Val Phe Ile Phe Arg
            20                  25                  30

Val Leu Val Tyr Leu Val Thr Ala Xaa Arg Val Trp Ser Asp Asp His
        35                  40                  45

Lys Asp Phe Asp Cys Asn Thr Arg Gln Pro Gly Cys Ser Asn Val Cys
    50                  55                  60

Phe Asp Glu Phe Phe Pro Val Ser His Val Arg Leu Trp Ala Leu Gln
65                  70                  75                  80

Leu Ile Leu Val Thr Cys Pro Ser Leu Leu Val Val Met His Val Ala
                85                  90                  95

Tyr Arg Glu Val Gln Glu Lys Arg His Arg Glu Ala His Gly Glu Asn
            100                 105                 110

Ser Gly Arg Leu Tyr Leu Asn Pro Gly Lys Lys Arg Gly Gly Leu Trp
        115                 120                 125

Trp Thr Tyr Val Cys Ser Leu Val Phe Lys Ala Ser Val Asp Ile Ala
    130                 135                 140

Phe Leu Tyr Val Phe His Ser Phe Tyr Pro Lys Tyr Ile Leu Pro Pro
145                 150                 155                 160

Val Val Lys Cys His Ala Asp Pro Cys Pro Asn Ile Val Asp Cys Phe
                165                 170                 175

Ile Ser Lys Pro Ser Glu Lys Asn Ile Phe Thr Leu Phe Met Val Ala
            180                 185                 190

Thr Ala Ala Ile Cys Ile Leu Leu Asn Leu Val Glu Leu Ile Tyr Leu
        195                 200                 205

Val Ser Lys Arg Cys His Glu Cys Leu Ala Ala Arg Lys Ala Gln Ala
    210                 215                 220

Met Cys Thr Gly His His Pro His Gly Thr Thr Ser Ser Cys Lys Gln
225                 230                 235                 240

Asp Asp Leu Leu Ser Gly Asp Leu Ile Phe Leu Gly Ser Asp Ser His
                245                 250                 255

Pro Pro Leu Leu Pro Asp Arg Pro Arg Asp His Val Lys Lys Thr Ile
            260                 265                 270

Leu
```

<210> 66
<211> 434
<212> PRT
<213> Homo sapiens

<400> 66

```
Ala Lys Gln Gln Leu Asn Leu Arg Thr His Met Ala Asp Glu Asn Lys
  1               5                  10                  15

Asn Glu Tyr Ala Ala Gln Leu Gln Asn Phe Asn Gly Glu Gln His Lys
            20                  25                  30

His Phe Tyr Val Val Ile Pro Gln Ile Tyr Lys Gln Leu Gln Glu Met
        35                  40                  45

Asp Glu Arg Arg Thr Ile Lys Leu Ser Glu Cys Tyr Arg Gly Phe Ala
    50                  55                  60

Asp Ser Glu Arg Lys Val Ile Pro Ile Ile Ser Lys Cys Leu Glu Gly
65                  70                  75                  80

Met Ile Leu Ala Ala Lys Ser Val Asp Glu Arg Arg Asp Ser Gln Met
                85                  90                  95

Val Val Asp Ser Phe Lys Ser Gly Phe Glu Pro Pro Gly Asp Phe Pro
            100                 105                 110

Phe Glu Asp Tyr Ser Gln His Ile Tyr Arg Thr Ile Ser Asp Gly Thr
        115                 120                 125

Ile Ser Ala Ser Lys Gln Glu Ser Gly Lys Met Asp Ala Lys Thr Thr
    130                 135                 140

Val Gly Lys Ala Lys Gly Lys Leu Trp Leu Phe Gly Lys Lys Pro Lys
145                 150                 155                 160

Pro Gln Ser Pro Pro Leu Thr Pro Thr Ser Leu Phe Thr Ser Ser Thr
                165                 170                 175

Pro Asn Gly Ser Gln Phe Leu Thr Phe Ser Ile Glu Pro Val His Tyr
            180                 185                 190

Cys Met Asn Glu Ile Lys Thr Gly Lys Pro Arg Ile Pro Ser Phe Arg
        195                 200                 205

Ser Leu Lys Arg Gly Gly Pro Ala Leu Glu Asp Phe Ser His Leu Pro
    210                 215                 220

Pro Glu Gln Arg Arg Lys Lys Leu Gln Gln Arg Ile Asp Glu Leu Asn
225                 230                 235                 240

Arg Glu Leu Gln Lys Glu Ser Asp Gln Lys Asp Ala Leu Asn Lys Met
                245                 250                 255

Lys Asp Val Tyr Glu Lys Asn Pro Gln Met Gly Asp Pro Gly Ser Leu
            260                 265                 270

Gln Pro Lys Leu Ala Glu Thr Met Asn Asn Ile Asp Arg Leu Arg Met
        275                 280                 285

Glu Ile His Lys Asn Glu Ala Trp Leu Ser Glu Val Glu Gly Lys Thr
```

```
    290                 295                 300

Gly Gly Arg Gly Asp Arg Arg His Ser Ser Asp Ile Asn His Leu Val
305                 310                 315                 320

Thr Gln Gly Arg Glu Ser Pro Glu Gly Ser Tyr Thr Asp Asp Ala Asn
                325                 330                 335

Gln Glu Val Arg Gly Pro Pro Gln Gln His Gly His His Asn Glu Phe
            340                 345                 350

Asp Asp Glu Phe Glu Asp Asp Asp Pro Leu Pro Ala Ile Gly His Cys
        355                 360                 365

Lys Ala Ile Tyr Pro Phe Asp Gly His Asn Glu Gly Thr Leu Ala Met
    370                 375                 380

Lys Glu Gly Glu Val Leu Tyr Ile Ile Glu Glu Asp Lys Gly Asp Gly
385                 390                 395                 400

Trp Thr Arg Ala Arg Arg Gln Asn Gly Glu Glu Gly Tyr Val Pro Thr
                405                 410                 415

Ser Tyr Ile Asp Val Thr Leu Glu Lys Asn Ser Lys Gly Ala Val Thr
            420                 425                 430

Tyr Ile
```

<210> 67
<211> 330
<212> PRT
<213> Homo sapiens

<400> 67

```
Met Asp Glu Arg Arg Thr Ile Lys Leu Ser Glu Cys Tyr Arg Gly Phe
  1                 5                  10                  15

Ala Asp Ser Glu Arg Lys Val Ile Pro Ile Ile Ser Lys Cys Leu Glu
             20                  25                  30

Gly Met Ile Leu Ala Ala Lys Ser Val Asp Glu Arg Arg Asp Ser Gln
         35                  40                  45

Met Val Val Asp Ser Phe Lys Ser Gly Phe Glu Pro Pro Gly Asp Phe
     50                  55                  60

Pro Phe Glu Asp Tyr Ser Gln His Ile Tyr Arg Thr Ile Ser Asp Gly
 65                  70                  75                  80

Thr Ile Ser Ala Ser Lys Gln Glu Ser Gly Lys Met Asp Ala Lys Thr
                 85                  90                  95

Thr Val Gly Lys Ala Lys Gly Lys Leu Trp Leu Phe Gly Lys Lys Pro
            100                 105                 110

Lys Gly Pro Ala Leu Glu Asp Phe Ser His Leu Pro Pro Glu Gln Arg
        115                 120                 125

Arg Lys Lys Leu Gln Gln Arg Ile Asp Glu Leu Asn Arg Glu Leu Gln
    130                 135                 140
```

Lys Glu Ser Asp Gln Lys Asp Ala Leu Asn Lys Met Lys Asp Val Tyr
145 150 155 160

Glu Lys Asn Pro Gln Met Gly Asp Pro Gly Ser Leu Gln Pro Lys Leu
165 170 175

Ala Glu Thr Met Asn Asn Ile Asp Arg Leu Arg Met Glu Ile His Lys
180 185 190

Asn Glu Ala Trp Leu Ser Glu Val Glu Gly Lys Thr Gly Gly Arg Gly
195 200 205

Asp Arg Arg His Ser Ser Asp Ile Asn His Leu Val Thr Gln Gly Arg
210 215 220

Glu Ser Pro Glu Gly Ser Tyr Thr Asp Asp Ala Asn Gln Glu Val Arg
225 230 235 240

Gly Pro Pro Gln Gln His Gly His His Asn Glu Phe Asp Asp Glu Phe
245 250 255

Glu Asp Asp Asp Pro Leu Pro Ala Ile Gly His Cys Lys Ala Ile Tyr
260 265 270

Pro Phe Asp Gly His Asn Glu Gly Thr Leu Ala Met Lys Glu Gly Glu
275 280 285

Val Leu Tyr Ile Ile Glu Glu Asp Lys Gly Asp Gly Trp Thr Arg Ala
290 295 300

Arg Arg Gln Asn Gly Glu Glu Gly Tyr Val Pro Thr Ser Tyr Ile Asp
305 310 315 320

Val Thr Leu Glu Lys Asn Ser Lys Gly Ser
325 330

<210> 68
<211> 592
<212> PRT
<213> Homo sapiens

<400> 68
Met Ser Trp Gly Thr Glu Leu Trp Asp Gln Phe Asp Asn Leu Glu Lys
1 5 10 15

His Thr Gln Trp Gly Ile Asp Ile Leu Glu Lys Tyr Ile Lys Phe Val
20 25 30

Lys Glu Arg Thr Glu Ile Glu Leu Ser Tyr Ala Lys Gln Leu Arg Asn
35 40 45

Leu Ser Lys Lys Tyr Gln Pro Lys Lys Asn Ser Lys Glu Glu Glu Glu
50 55 60

Tyr Lys Tyr Thr Ser Cys Lys Ala Phe Ile Ser Asn Leu Asn Glu Met
65 70 75 80

Asn Asp Tyr Ala Gly Gln His Glu Val Ile Ser Glu Asn Met Ala Ser
85 90 95

Gln Ile Ile Val Asp Leu Ala Arg Tyr Val Gln Glu Leu Lys Gln Glu
100 105 110

```
Arg Lys Ser Asn Phe His Asp Gly Arg Lys Ala Gln Gln His Ile Glu
        115                 120                 125

Thr Cys Trp Lys Gln Leu Glu Ser Ser Lys Arg Arg Phe Glu Arg Asp
    130                 135                 140

Cys Lys Glu Ala Asp Arg Ala Gln Gln Tyr Phe Glu Lys Met Asp Ala
145                 150                 155                 160

Asp Ile Asn Val Thr Lys Ala Asp Val Glu Lys Ala Arg Gln Gln Ala
                165                 170                 175

Gln Ile Arg His Gln Met Ala Glu Asp Ser Lys Ala Asp Tyr Ser Ser
            180                 185                 190

Ile Leu Gln Lys Phe Asn His Glu Gln His Glu Tyr Tyr His Thr His
        195                 200                 205

Ile Pro Asn Ile Phe Gln Lys Ile Gln Glu Met Glu Glu Arg Arg Ile
    210                 215                 220

Val Arg Met Gly Glu Ser Met Lys Thr Tyr Ala Glu Val Asp Arg Gln
225                 230                 235                 240

Val Ile Pro Ile Ile Gly Lys Cys Leu Asp Gly Ile Val Lys Ala Ala
                245                 250                 255

Glu Ser Ile Asp Gln Lys Asn Asp Ser Gln Leu Val Ile Glu Ala Tyr
            260                 265                 270

Lys Ser Gly Phe Glu Pro Pro Gly Asp Ile Glu Phe Glu Asp Tyr Thr
        275                 280                 285

Gln Pro Met Lys Arg Thr Val Ser Asp Asn Ser Leu Ser Asn Ser Arg
    290                 295                 300

Gly Glu Gly Lys Pro Asp Leu Lys Phe Gly Gly Lys Ser Lys Gly Lys
305                 310                 315                 320

Leu Trp Pro Phe Ile Lys Lys Asn Lys Ser Pro Lys Gln Gln Lys Glu
                325                 330                 335

Pro Leu Ser His Arg Phe Asn Glu Phe Met Thr Ser Lys Pro Lys Ile
            340                 345                 350

His Cys Phe Arg Ser Leu Lys Arg Gly Leu Ser Leu Lys Leu Gly Ala
        355                 360                 365

Thr Pro Glu Asp Phe Ser Asn Leu Pro Pro Glu Gln Arg Arg Lys Lys
    370                 375                 380

Leu Gln Gln Lys Val Asp Glu Leu Asn Lys Glu Ile Gln Lys Glu Met
385                 390                 395                 400

Asp Gln Arg Asp Ala Ile Thr Lys Met Lys Asp Val Tyr Leu Lys Asn
                405                 410                 415

Pro Gln Met Gly Asp Pro Ala Ser Leu Asp His Lys Leu Ala Glu Val
            420                 425                 430

Ser Gln Asn Ile Glu Lys Leu Arg Val Glu Thr Gln Lys Phe Glu Ala
        435                 440                 445
```

```
Trp Leu Ala Glu Val Glu Gly Arg Leu Pro Ala Arg Asn Glu Gln Ala
    450                 455                 460

Arg Arg Gln Ser Gly Leu Tyr Asp Ser Gln Asn Pro Pro Thr Val Asn
465                 470                 475                 480

Asn Cys Ala Gln Asp Arg Glu Ser Pro Asp Gly Ser Tyr Thr Glu Glu
                485                 490                 495

Gln Ser Gln Glu Ser Glu Met Lys Val Leu Ala Thr Asp Phe Asp Asp
            500                 505                 510

Glu Phe Asp Asp Glu Glu Pro Leu Pro Ala Ile Gly Thr Cys Lys Ala
        515                 520                 525

Leu Tyr Thr Phe Glu Gly Gln Asn Glu Gly Thr Ile Ser Val Val Glu
    530                 535                 540

Gly Glu Thr Leu Tyr Val Ile Glu Glu Asp Lys Gly Asp Gly Trp Thr
545                 550                 555                 560

Arg Ile Arg Arg Asn Glu Asp Glu Glu Gly Tyr Val Pro Thr Ser Tyr
                565                 570                 575

Val Glu Val Cys Leu Asp Lys Asn Ala Lys Gly Ala Lys Thr Tyr Ile
            580                 585                 590
```

<210> 69
<211> 679
<212> PRT
<213> Homo sapiens

<400> 69

```
Leu Trp Asn Gly Gly Glu Glu Glu Pro Pro Arg Arg Pro Arg Ala Arg
  1               5                  10                  15

Ser Cys Glu Pro Glu Glu Ala Ala Arg Thr Pro Gly Phe Pro Pro Ser
            20                  25                  30

Arg Gly Ser Arg Gly Ala Lys Gly Ser Pro Gly Arg Gly Thr Arg Glu
        35                  40                  45

Pro Arg Pro Pro Arg Gly Ala Pro Leu Arg Val Pro Cys Thr Met Ser
    50                  55                  60

Trp Gly Thr Glu Leu Trp Asp Gln Phe Asp Asn Leu Glu Lys His Thr
65                  70                  75                  80

Gln Trp Gly Ile Asp Ile Leu Glu Lys Tyr Ile Lys Phe Val Lys Glu
                85                  90                  95

Arg Thr Glu Ile Glu Leu Ser Tyr Ala Lys Gln Leu Arg Asn Leu Ser
            100                 105                 110

Lys Lys Tyr Gln Pro Lys Lys Asn Ser Lys Glu Glu Glu Glu Tyr Lys
        115                 120                 125

Tyr Thr Ser Cys Lys Ala Phe Ile Ser Asn Leu Asn Glu Met Asn Asp
```

130 135 140

Tyr Ala Gly Gln His Glu Val Ile Ser Glu Asn Met Ala Ser Gln Ile
145 150 155 160

Ile Val Asp Leu Ala Arg Tyr Val Gln Glu Leu Lys Gln Glu Arg Lys
165 170 175

Ser Asn Phe His Asp Gly Arg Lys Ala Gln Gln His Ile Glu Thr Cys
180 185 190

Trp Lys Gln Leu Glu Ser Ser Lys Arg Arg Phe Glu Arg Asp Cys Lys
195 200 205

Glu Ala Asp Arg Ala Gln Gln Tyr Phe Glu Lys Met Asp Ala Asp Ile
210 215 220

Asn Val Thr Lys Ala Asp Val Glu Lys Ala Arg Gln Gln Ala Gln Ile
225 230 235 240

Arg His Gln Met Ala Glu Asp Ser Lys Ala Asp Tyr Ser Ser Ile Leu
245 250 255

Gln Lys Phe Asn His Glu Gln His Glu Tyr Tyr His Thr His Ile Pro
260 265 270

Asn Ile Phe Gln Lys Ile Gln Glu Met Glu Glu Arg Arg Ile Val Arg
275 280 285

Met Gly Glu Ser Met Lys Thr Tyr Ala Glu Val Asp Arg Gln Val Ile
290 295 300

Pro Ile Ile Gly Lys Cys Leu Asp Gly Ile Val Lys Ala Ala Glu Ser
305 310 315 320

Ile Asp Gln Lys Asn Asp Ser Gln Leu Val Ile Glu Ala Tyr Lys Ser
325 330 335

Gly Phe Glu Pro Pro Gly Asp Ile Glu Phe Glu Asp Tyr Thr Gln Pro
340 345 350

Met Lys Arg Thr Val Ser Asp Asn Ser Leu Ser Asn Ser Arg Gly Glu
355 360 365

Gly Lys Pro Asp Leu Lys Phe Gly Gly Lys Ser Lys Gly Lys Leu Trp
370 375 380

Pro Phe Ile Lys Lys Asn Lys Leu Met Ser Leu Leu Thr Ser Pro His
385 390 395 400

Gln Pro Pro Pro Pro Pro Pro Ala Ser Ala Ser Pro Ser Ala Val Pro
405 410 415

Asn Gly Pro Gln Ser Pro Lys Gln Gln Lys Glu Pro Leu Ser His Arg
420 425 430

Phe Asn Glu Phe Met Thr Ser Lys Pro Lys Ile His Cys Phe Arg Ser
435 440 445

Leu Lys Arg Gly Leu Ser Leu Lys Leu Gly Ala Thr Pro Glu Asp Phe
450 455 460

Ser Asn Leu Pro Pro Glu Gln Arg Arg Lys Lys Leu Gln Gln Lys Val

465 470 475 480

Asp Glu Leu Asn Lys Glu Ile Gln Lys Glu Met Asp Gln Arg Asp Ala
485 490 495

Ile Thr Lys Met Lys Asp Val Tyr Leu Lys Asn Pro Gln Met Gly Asp
500 505 510

Pro Ala Ser Leu Asp His Lys Leu Ala Glu Val Ser Gln Asn Ile Glu
515 520 525

Lys Leu Arg Val Glu Thr Gln Lys Phe Glu Ala Trp Leu Ala Glu Val
530 535 540

Glu Gly Arg Leu Pro Ala Arg Ser Glu Gln Ala Arg Arg Gln Ser Gly
545 550 555 560

Leu Tyr Asp Ser Gln Asn Pro Pro Thr Val Asn Asn Cys Ala Gln Asp
565 570 575

Arg Glu Ser Pro Asp Gly Ser Tyr Thr Glu Glu Gln Ser Gln Glu Ser
580 585 590

Glu Met Lys Val Leu Ala Thr Asp Phe Asp Asp Glu Phe Asp Asp Glu
595 600 605

Glu Pro Leu Pro Ala Ile Gly Thr Cys Lys Ala Leu Tyr Thr Phe Glu
610 615 620

Gly Gln Asn Glu Gly Thr Ile Ser Val Val Glu Gly Glu Thr Leu Tyr
625 630 635 640

Val Ile Glu Glu Asp Lys Gly Asp Gly Trp Thr Arg Ile Arg Arg Asn
645 650 655

Glu Asp Glu Glu Gly Tyr Val Pro Thr Ser Tyr Val Glu Val Cys Leu
660 665 670

Asp Lys Asn Ala Lys Asp Ser
675

<210> 70
<211> 674
<212> PRT
<213> Homo sapiens

<400> 70
Glu Glu Glu Pro Pro Arg Arg Pro Arg Ala Arg Ser Cys Glu Pro Glu
1 5 10 15

Glu Ala Ala Arg Thr Pro Gly Phe Pro Pro Ser Arg Gly Ser Arg Gly
20 25 30

Ala Lys Gly Ser Pro Gly Arg Gly Thr Arg Glu Pro Arg Pro Pro Arg
35 40 45

Gly Ala Pro Leu Arg Val Pro Cys Thr Met Ser Trp Gly Thr Glu Leu
50 55 60

Trp Asp Gln Phe Asp Asn Leu Glu Lys His Thr Gln Trp Gly Ile Asp
65 70 75 80

```
Ile Leu Glu Lys Tyr Ile Lys Phe Val Lys Glu Arg Thr Glu Ile Glu
                 85                  90                  95

Leu Ser Tyr Ala Lys Gln Leu Arg Asn Leu Ser Lys Lys Tyr Gln Pro
            100                 105                 110

Lys Lys Asn Ser Lys Glu Glu Glu Glu Tyr Lys Tyr Thr Ser Cys Lys
        115                 120                 125

Ala Phe Ile Ser Asn Leu Asn Glu Met Asn Asp Tyr Ala Gly Gln His
    130                 135                 140

Glu Val Ile Ser Glu Asn Met Ala Ser Gln Ile Ile Val Asp Leu Ala
145                 150                 155                 160

Arg Tyr Val Gln Glu Leu Lys Gln Glu Arg Lys Ser Asn Phe His Asp
                165                 170                 175

Gly Arg Lys Ala Gln Gln His Ile Glu Thr Cys Trp Lys Gln Leu Glu
            180                 185                 190

Ser Ser Lys Arg Arg Phe Glu Arg Asp Cys Lys Glu Ala Asp Arg Ala
        195                 200                 205

Gln Gln Tyr Phe Glu Lys Met Asp Ala Asp Ile Asn Val Thr Lys Ala
    210                 215                 220

Asp Val Glu Lys Ala Arg Gln Gln Ala Gln Ile Arg His Gln Met Ala
225                 230                 235                 240

Glu Asp Ser Lys Ala Asp Tyr Ser Ser Ile Leu Gln Lys Phe Asn His
                245                 250                 255

Glu Gln His Glu Tyr Tyr His Thr His Ile Pro Asn Ile Phe Gln Lys
            260                 265                 270

Ile Gln Glu Met Glu Glu Arg Arg Ile Val Arg Met Gly Glu Ser Met
        275                 280                 285

Lys Thr Tyr Ala Glu Val Asp Arg Gln Val Ile Pro Ile Ile Gly Lys
    290                 295                 300

Cys Leu Asp Gly Ile Val Lys Ala Ala Glu Ser Ile Asp Gln Lys Asn
305                 310                 315                 320

Asp Ser Gln Leu Val Ile Glu Ala Tyr Lys Ser Gly Phe Glu Pro Pro
                325                 330                 335

Gly Asp Ile Glu Phe Glu Asp Tyr Thr Gln Pro Met Lys Arg Thr Val
            340                 345                 350

Ser Asp Asn Ser Leu Ser Asn Ser Arg Gly Glu Gly Lys Pro Asp Leu
        355                 360                 365

Lys Phe Gly Gly Lys Ser Lys Gly Lys Leu Trp Pro Phe Ile Lys Lys
    370                 375                 380

Asn Lys Leu Met Ser Leu Leu Thr Ser Pro His Gln Pro Pro Pro Pro
385                 390                 395                 400

Pro Pro Ala Ser Ala Ser Pro Ser Ala Val Pro Asn Gly Pro Gln Ser
                405                 410                 415
```

```
Pro Lys Gln Gln Lys Glu Pro Leu Ser His Arg Phe Asn Glu Phe Met
            420                 425                 430

Thr Ser Lys Pro Lys Ile His Cys Phe Arg Ser Leu Lys Arg Gly Leu
        435                 440                 445

Ser Leu Lys Leu Gly Ala Thr Pro Glu Asp Phe Ser Asn Leu Pro Pro
    450                 455                 460

Glu Gln Arg Arg Lys Lys Leu Gln Gln Lys Val Asp Glu Leu Asn Lys
465                 470                 475                 480

Glu Ile Gln Lys Glu Met Asp Gln Arg Asp Ala Ile Thr Lys Met Lys
                485                 490                 495

Asp Val Tyr Leu Lys Asn Pro Gln Met Gly Asp Pro Ala Ser Leu Asp
            500                 505                 510

His Lys Leu Ala Glu Val Ser Gln Asn Ile Glu Lys Leu Arg Val Glu
        515                 520                 525

Thr Gln Lys Phe Glu Ala Trp Leu Ala Glu Val Glu Gly Arg Leu Pro
    530                 535                 540

Ala Arg Ser Glu Gln Ala Arg Arg Gln Ser Gly Leu Tyr Asp Ser Gln
545                 550                 555                 560

Asn Pro Pro Thr Val Asn Asn Cys Ala Gln Asp Arg Glu Ser Pro Asp
                565                 570                 575

Gly Ser Tyr Thr Glu Glu Gln Ser Gln Glu Ser Glu Met Lys Val Leu
            580                 585                 590

Ala Thr Asp Phe Asp Asp Glu Phe Asp Asp Glu Glu Pro Leu Pro Ala
        595                 600                 605

Ile Gly Thr Cys Lys Ala Leu Tyr Thr Phe Glu Gly Gln Asn Glu Gly
    610                 615                 620

Thr Ile Ser Val Val Glu Gly Glu Thr Leu Tyr Val Ile Glu Glu Asp
625                 630                 635                 640

Lys Gly Asp Gly Trp Thr Arg Ile Arg Arg Asn Glu Asp Glu Glu Gly
                645                 650                 655

Tyr Val Pro Thr Ser Tyr Val Glu Val Cys Leu Asp Lys Asn Ala Lys
            660                 665                 670

Asp Ser
```

<210> 71
<211> 457
<212> PRT
<213> Homo sapiens

<400> 71

```
Met Ser Leu Met Leu Asp Asp Gln Pro Pro Met Glu Ala Gln Tyr Ala
  1               5                  10                  15

Glu Glu Gly Pro Gly Pro Gly Ile Phe Arg Ala Glu Pro Gly Asp Gln
             20                  25                  30
```

Gln His Pro Ile Ser Gln Ala Val Cys Trp Arg Ser Met Arg Arg Gly
35 40 45

Cys Ala Val Leu Gly Ala Leu Gly Leu Leu Ala Gly Ala Gly Val Gly
50 55 60

Ser Trp Leu Leu Val Leu Tyr Leu Cys Pro Ala Ala Ser Gln Pro Ile
65 70 75 80

Ser Gly Thr Leu Gln Asp Glu Glu Ile Thr Leu Ser Cys Ser Glu Ala
85 90 95

Ser Ala Glu Glu Ala Leu Leu Pro Ala Leu Pro Lys Thr Val Ser Phe
100 105 110

Arg Ile Asn Ser Glu Asp Phe Leu Leu Glu Ala Gln Val Arg Asp Gln
115 120 125

Pro Arg Trp Leu Leu Val Cys His Glu Gly Trp Ser Pro Ala Leu Gly
130 135 140

Leu Gln Ile Cys Trp Ser Leu Gly His Leu Arg Leu Thr His His Lys
145 150 155 160

Gly Val Asn Leu Thr Asp Ile Lys Leu Asn Ser Ser Gln Glu Phe Ala
165 170 175

Gln Leu Ser Pro Arg Leu Gly Gly Phe Leu Glu Glu Ala Trp Gln Pro
180 185 190

Arg Asn Asn Cys Thr Ser Gly Gln Val Val Ser Leu Arg Cys Ser Glu
195 200 205

Cys Gly Ala Arg Pro Leu Ala Ser Arg Ile Val Gly Gly Gln Ser Val
210 215 220

Ala Pro Gly Arg Trp Pro Trp Gln Ala Ser Val Ala Leu Gly Phe Arg
225 230 235 240

His Thr Cys Gly Gly Ser Val Leu Ala Pro Arg Trp Val Val Thr Ala
245 250 255

Ala His Cys Met His Ser Phe Arg Leu Ala Arg Leu Ser Ser Trp Arg
260 265 270

Val His Ala Gly Leu Val Ser His Ser Ala Val Arg Pro His Gln Gly
275 280 285

Ala Leu Val Glu Arg Ile Ile Pro His Pro Leu Tyr Ser Ala Gln Asn
290 295 300

His Asp Tyr Asp Val Ala Leu Leu Arg Leu Gln Thr Ala Leu Asn Phe
305 310 315 320

Ser Asp Thr Val Gly Ala Val Cys Leu Pro Ala Lys Glu Gln His Phe
325 330 335

Pro Lys Gly Ser Arg Cys Trp Val Ser Gly Trp Gly His Thr His Pro
340 345 350

Ser His Thr Tyr Ser Ser Asp Met Leu Gln Asp Thr Val Val Pro Leu
355 360 365

```
Phe Ser Thr Gln Leu Cys Asn Ser Ser Cys Val Tyr Ser Gly Ala Leu
    370                 375                 380

Thr Pro Arg Met Leu Cys Ala Gly Tyr Leu Asp Gly Arg Ala Asp Ala
385                 390                 395                 400

Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Pro Asp Gly Asp Thr
                405                 410                 415

Trp Arg Leu Val Gly Val Val Ser Trp Gly Arg Ala Cys Ala Glu Pro
            420                 425                 430

Asn His Pro Gly Val Tyr Ala Lys Val Ala Glu Phe Leu Asp Trp Ile
        435                 440                 445

His Asp Thr Ala Gln Asp Ser Leu Leu
    450                 455
```

<210> 72
<211> 455
<212> PRT
<213> Mus musculus

<400> 72

```
Met Ser Pro Thr Leu Asp Asp Gln Ser Pro Met Glu Ile Arg Cys Thr
  1               5                  10                  15

Glu Glu Gly Ala Gly Pro Gly Ile Phe Arg Met Glu Leu Gly Asp Gln
            20                  25                  30

Arg Gln Ser Ile Ser Gln Ser Gln Arg Trp Cys Cys Leu Gln Arg Gly
        35                  40                  45

Cys Val Ile Leu Gly Val Leu Gly Leu Leu Ala Gly Ala Gly Ile Ala
    50                  55                  60

Ser Trp Leu Leu Val Leu Tyr Leu Trp Pro Ala Ala Ser Pro Ser Ile
65                  70                  75                  80

Ser Gly Thr Leu Gln Glu Glu Glu Met Thr Leu Asn Cys Pro Gly Val
                85                  90                  95

Ser Cys Glu Glu Glu Leu Leu Pro Ser Leu Pro Lys Thr Val Ser Phe
            100                 105                 110

Arg Ile Asn Gly Glu Asp Leu Leu Leu Gln Val Gln Val Arg Ala Arg
        115                 120                 125

Pro Asp Trp Leu Leu Val Cys His Glu Gly Trp Ser Pro Ala Leu Gly
    130                 135                 140

Met His Ile Cys Lys Ser Leu Gly His Ile Arg Leu Thr Gln His Lys
145                 150                 155                 160

Ala Val Asn Leu Ser Asp Ile Lys Leu Asn Arg Ser Gln Glu Phe Ala
                165                 170                 175

Gln Leu Ser Ala Arg Pro Gly Gly Leu Val Glu Glu Ala Trp Lys Pro
            180                 185                 190

Ser Ala Asn Cys Pro Ser Gly Arg Ile Val Ser Leu Lys Cys Ser Glu
```

```
        195                 200                 205

Cys Gly Ala Arg Pro Leu Ala Ser Arg Ile Val Gly Gly Gln Ala Val
    210                 215                 220

Ala Ser Gly Arg Trp Pro Trp Gln Ala Ser Val Met Leu Gly Ser Arg
225                 230                 235                 240

His Thr Cys Gly Ala Ser Val Leu Ala Pro His Trp Val Val Thr Ala
                245                 250                 255

Ala His Cys Met Tyr Ser Phe Arg Leu Ser Arg Leu Ser Ser Trp Arg
            260                 265                 270

Val His Ala Gly Leu Val Ser His Gly Ala Val Arg Gln His Gln Gly
        275                 280                 285

Thr Met Val Glu Lys Ile Ile Pro His Pro Leu Tyr Ser Ala Gln Asn
    290                 295                 300

His Asp Tyr Asp Val Ala Leu Leu Gln Leu Arg Thr Pro Ile Asn Phe
305                 310                 315                 320

Ser Asp Thr Val Asp Ala Val Cys Leu Pro Ala Lys Glu Gln Tyr Phe
                325                 330                 335

Pro Trp Gly Ser Gln Cys Trp Val Ser Gly Trp Gly His Thr Asp Pro
            340                 345                 350

Ser His Thr His Ser Ser Asp Thr Leu Gln Asp Thr Met Val Pro Leu
        355                 360                 365

Leu Ser Thr His Leu Cys Asn Ser Ser Cys Met Tyr Ser Gly Ala Leu
    370                 375                 380

Thr His Arg Met Leu Cys Ala Gly Tyr Leu Asp Gly Arg Ala Asp Ala
385                 390                 395                 400

Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Pro Ser Gly Asp Thr
                405                 410                 415

Trp His Leu Val Gly Val Val Ser Trp Gly Arg Gly Cys Ala Glu Pro
            420                 425                 430

Asn Arg Pro Gly Val Tyr Ala Lys Val Ala Glu Phe Leu Asp Trp Ile
        435                 440                 445

His Asp Thr Val Gln Val Arg
    450                 455


<210> 73
<211> 445
<212> PRT
<213> Mus musculus

<400> 73
Met Glu Ile Arg Cys Thr Glu Glu Gly Ala Gly Pro Gly Ile Phe Arg
  1               5                  10                  15

Met Glu Leu Gly Asp Gln Arg Gln Ser Ile Ser Gln Ser Gln Arg Trp
            20                  25                  30
```

```
Cys Cys Leu Gln Arg Gly Cys Val Ile Leu Gly Val Leu Gly Leu Leu
        35                  40                  45

Ala Gly Ala Gly Ile Ala Ser Trp Leu Leu Val Leu Tyr Leu Trp Pro
    50                  55                  60

Ala Ala Ser Pro Ser Ile Ser Gly Thr Leu Gln Glu Glu Glu Met Thr
65                  70                  75                  80

Leu Asn Cys Pro Gly Val Ser Cys Glu Glu Glu Leu Leu Pro Ser Leu
                85                  90                  95

Pro Lys Thr Val Ser Phe Arg Ile Asn Gly Glu Asp Leu Leu Leu Gln
            100                 105                 110

Val Gln Val Arg Ala Arg Pro Asp Trp Leu Leu Val Cys His Glu Gly
        115                 120                 125

Trp Ser Pro Ala Leu Gly Met His Ile Cys Lys Ser Leu Gly His Ile
    130                 135                 140

Arg Leu Thr Gln His Lys Ala Val Asn Leu Ser Asp Ile Lys Leu Asn
145                 150                 155                 160

Arg Ser Gln Glu Phe Ala Gln Leu Ser Ala Arg Pro Gly Gly Leu Val
                165                 170                 175

Glu Glu Ala Trp Lys Pro Ser Ala Asn Cys Pro Ser Gly Arg Ile Val
            180                 185                 190

Ser Leu Lys Cys Ser Glu Cys Gly Ala Arg Pro Leu Ala Ser Arg Ile
        195                 200                 205

Val Gly Gly Gln Ala Val Ala Ser Gly Arg Trp Pro Trp Gln Ala Ser
    210                 215                 220

Val Met Leu Gly Ser Arg His Thr Cys Gly Ala Ser Val Leu Ala Pro
225                 230                 235                 240

His Trp Val Val Thr Ala Ala His Cys Met Tyr Ser Phe Arg Leu Ser
                245                 250                 255

Arg Leu Ser Ser Trp Arg Val His Ala Gly Leu Val Ser His Gly Ala
            260                 265                 270

Val Arg Gln His Gln Gly Thr Met Val Glu Lys Ile Ile Pro His Pro
        275                 280                 285

Leu Tyr Ser Ala Gln Asn His Asp Tyr Asp Val Ala Leu Leu Gln Leu
    290                 295                 300

Arg Thr Pro Ile Asn Phe Ser Asp Thr Val Gly Ala Val Cys Leu Pro
305                 310                 315                 320

Ala Lys Glu Gln Tyr Phe Pro Trp Gly Ser Gln Cys Trp Val Ser Gly
                325                 330                 335

Trp Gly His Thr Asp Pro Ser His Thr His Ser Ser Asp Thr Leu Gln
            340                 345                 350

Asp Thr Met Val Pro Leu Leu Ser Thr His Leu Cys Asn Ser Ser Cys
        355                 360                 365
```

```
Met Tyr Ser Gly Ala Leu Thr His Arg Met Leu Cys Ala Gly Tyr Leu
    370                 375                 380

Asp Gly Arg Ala Asp Ala Cys Gln Gly Asp Ser Gly Gly Pro Leu Val
385                 390                 395                 400

Cys Pro Ser Gly Asp Thr Trp His Leu Val Gly Val Val Ser Trp Gly
                405                 410                 415

Arg Gly Cys Ala Glu Pro Asn Arg Pro Gly Val Tyr Ala Lys Val Ala
            420                 425                 430

Glu Phe Leu Asp Trp Ile His Asp Thr Val Gln Val Arg
        435                 440                 445
```

<210> 74
<211> 398
<212> PRT
<213> Homo sapiens

<400> 74

```
Met Ser Leu Met Leu Asp Asp Gln Pro Pro Met Glu Ala Gln Tyr Ala
  1               5                  10                  15

Glu Glu Gly Pro Gly Pro Gly Ile Phe Arg Ala Glu Pro Gly Asp Gln
            20                  25                  30

Gln His Pro Ile Ser Gln Ala Val Cys Trp Arg Ser Met Arg Arg Gly
        35                  40                  45

Cys Ala Val Leu Gly Ala Leu Gly Leu Leu Ala Gly Ala Gly Val Gly
    50                  55                  60

Ser Trp Leu Leu Val Leu Tyr Leu Cys Pro Ala Ala Ser Gln Pro Ile
65                  70                  75                  80

Ser Gly Thr Leu Gln Asp Glu Glu Ile Thr Leu Ser Cys Ser Glu Ala
                85                  90                  95

Ser Ala Glu Glu Ala Leu Leu Pro Ala Leu Pro Lys Thr Val Ser Phe
            100                 105                 110

Arg Ile Asn Ser Glu Asp Phe Leu Leu Glu Ala Gln Val Arg Asp Gln
        115                 120                 125

Pro Arg Trp Leu Leu Val Cys His Glu Gly Trp Ser Pro Ala Leu Gly
    130                 135                 140

Leu Gln Ile Cys Trp Ser Leu Gly His Leu Arg Leu Thr His His Lys
145                 150                 155                 160

Gly Val Asn Leu Thr Asp Ile Lys Leu Asn Ser Ser Gln Glu Phe Ala
                165                 170                 175

Gln Leu Ser Pro Arg Leu Gly Gly Phe Leu Glu Glu Ala Trp Gln Pro
            180                 185                 190

Arg Asn Asn Cys Thr Ser Gly Gln Val Val Ser Leu Arg Cys Ser Glu
        195                 200                 205

Cys Gly Ala Arg Pro Leu Ala Ser Arg Ile Val Gly Gly Gln Ser Val
    210                 215                 220
```

```
Ala Pro Gly Arg Trp Pro Trp Gln Ala Ser Val Ala Leu Gly Phe Arg
225                 230                 235                 240

His Thr Cys Gly Gly Ser Val Leu Ala Pro Arg Trp Val Val Thr Ala
                245                 250                 255

Ala His Cys Met His Ser Phe Arg Leu Ala Arg Leu Ser Ser Trp Arg
            260                 265                 270

Val His Ala Gly Leu Val Ser His Ser Ala Val Arg Pro His Gln Gly
        275                 280                 285

Ala Leu Val Glu Arg Ile Ile Pro His Pro Leu Tyr Ser Ala Gln Asn
    290                 295                 300

His Asp Tyr Asp Val Ala Leu Leu Arg Leu Gln Thr Ala Leu Asn Phe
305                 310                 315                 320

Ser Asp Thr Val Gly Ala Val Cys Leu Pro Ala Lys Glu Gln His Phe
                325                 330                 335

Pro Lys Gly Ser Arg Cys Trp Val Ser Gly Trp Gly His Thr His Pro
            340                 345                 350

Ser His Ser Leu Gln Leu Gly Tyr Ala Pro Gly His Gly Gly Ala Leu
        355                 360                 365

Val Gln His Ser Ala Leu Gln Gln Leu Leu Arg Val Gln Arg Ser Pro
    370                 375                 380

His Pro Pro His Ala Leu Arg Trp Leu Pro Gly Arg Lys Gly
385                 390                 395


<210> 75
<211> 311
<212> PRT
<213> Mus musculus

<400> 75
Met His Ile Cys Lys Ser Leu Gly His Ile Arg Leu Thr Gln His Lys
  1               5                  10                  15

Ala Val Asn Leu Ser Asp Ile Lys Leu Asn Arg Ser Gln Glu Phe Ala
            20                  25                  30

Gln Leu Ser Ala Arg Pro Gly Gly Leu Val Glu Glu Ala Trp Lys Pro
        35                  40                  45

Ser Ala Asn Cys Pro Ser Gly Arg Ile Val Ser Leu Lys Cys Ser Glu
    50                  55                  60

Cys Gly Ala Arg Pro Leu Ala Ser Arg Ile Val Gly Gly Gln Ala Val
65                  70                  75                  80

Ala Ser Gly Arg Trp Pro Trp Gln Ala Ser Val Met Leu Gly Ser Arg
                85                  90                  95

His Thr Cys Gly Ala Ser Val Leu Ala Pro His Trp Val Val Thr Ala
            100                 105                 110

Ala His Cys Met Tyr Ser Phe Arg Leu Ser Arg Leu Ser Ser Trp Arg
```

115 120 125

Val His Ala Gly Leu Val Ser His Gly Ala Val Arg Gln His Gln Gly
130 135 140

Thr Met Val Glu Lys Ile Ile Pro His Pro Leu Tyr Ser Ala Gln Asn
145 150 155 160

His Asp Tyr Asp Val Ala Leu Leu Gln Leu Arg Thr Pro Ile Asn Phe
165 170 175

Ser Asp Thr Val Asp Ala Val Cys Leu Pro Ala Lys Glu Gln Tyr Phe
180 185 190

Pro Trp Gly Ser Gln Cys Trp Val Ser Gly Trp Gly His Thr Asp Pro
195 200 205

Ser His Thr His Ser Ser Asp Thr Leu Gln Asp Thr Met Val Pro Leu
210 215 220

Leu Ser Thr His Leu Cys Asn Ser Ser Cys Met Tyr Ser Gly Ala Leu
225 230 235 240

Thr His Arg Met Leu Cys Ala Gly Tyr Leu Asp Gly Arg Ala Asp Ala
245 250 255

Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Pro Ser Gly Asp Thr
260 265 270

Trp His Leu Val Gly Val Val Ser Trp Gly Arg Gly Cys Ala Glu Pro
275 280 285

Asn Arg Pro Gly Val Tyr Ala Lys Val Ala Glu Phe Leu Asp Trp Ile
290 295 300

His Asp Thr Val Gln Val Arg
305 310

<210> 76
<211> 199
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Reprolysin family zinc protease Consensus Sequence

<400> 76
Lys Tyr Ile Glu Leu Phe Ile Val Val Asp His Gly Met Phe Thr Lys
1 5 10 15

Tyr Gly Ser Asp Leu Asn Lys Ile Arg Gln Arg Val His Gln Ile Val
20 25 30

Asn Leu Val Asn Glu Ile Tyr Arg Pro Leu Asn Ile Arg Val Val Leu
35 40 45

Val Gly Leu Glu Ile Trp Ser Asp Gly Asp Lys Ile Thr Val Gln Gly
50 55 60

Asp Ala Asn Asp Thr Leu His Arg Phe Leu Glu Trp Arg Glu Thr Asp
65 70 75 80

Leu Leu Lys Arg Lys Ser His Asp Asn Ala Gln Leu Leu Thr Gly Ile
85 90 95

Asp Phe Asp Gly Asn Thr Ile Gly Ala Ala Tyr Val Gly Gly Met Cys
100 105 110

Ser Pro Lys Arg Ser Val Gly Val Val Gln Asp His Ser Pro Ile Val
115 120 125

Leu Leu Val Ala Val Thr Met Ala His Glu Leu Gly His Asn Leu Gly
130 135 140

Met Thr His Asp Asp Ile Asn Lys Cys Thr Cys Glu Gly Gly Gly Gly
145 150 155 160

Cys Ile Met Asn Pro Val Ala Ser Ser Ser Pro Gly Lys Lys Phe Ser
165 170 175

Asn Cys Ser Met Asp Asp Tyr Gln Gln Phe Leu Thr Lys Gly Lys Pro
180 185 190

Gln Cys Leu Leu Asn Lys Pro
195

<210> 77
<211> 51
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Thrombospondin
type 1 Consensus Sequence

<400> 77
Trp Gly Glu Trp Ser Glu Trp Ser Pro Cys Ser Val Thr Cys Gly Gly
1 5 10 15

Gly Val Gln Thr Arg Thr Arg Cys Cys Asn Pro Pro Pro Asn Gly Gly
20 25 30

Gly Pro Cys Thr Gly Pro Asp Thr Glu Thr Arg Ala Cys Asn Glu Gln
35 40 45

Pro Cys Pro
50

<210> 78
<211> 48
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Thrombospondin
type 1 domain Consenus Sequence

<400> 78
Ser Pro Trp Ser Glu Trp Ser Pro Cys Ser Val Thr Cys Gly Lys Gly
1 5 10 15

Ile Arg Thr Arg Gln Arg Thr Cys Asn Ser Pro Ala Gly Gly Lys Pro

20 25 30

Cys Thr Gly Asp Ala Gln Glu Thr Glu Ala Cys Met Met Asp Pro Cys
35 40 45

<210> 79
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Reprolysin family propeptide Consensus Sequence

<400> 79
His Leu Glu Lys Asn Arg Ser Leu Leu Ala Pro Asp Phe Thr Val Thr
1 5 10 15

Thr Tyr Asp Asp Asp Gly Thr Leu Val Thr Glu His Pro Leu Ile Gln
20 25 30

Asp His Cys Tyr Tyr Gln Gly Tyr Val Glu Gly Tyr Pro Asn Ser Ala
35 40 45

Val Ser Leu Ser Thr Cys Ser Gly Leu Arg Gly Ile Leu Gln Leu Glu
50 55 60

Asn Leu Ser Tyr Gly Ile Glu Pro Leu Glu Ser Ser Asp Gly Phe Glu
65 70 75 80

His Ile Ile Tyr Gln Ile Glu His Leu Lys Thr Val Pro Gly Pro Cys
85 90 95

Gly Glu Cys Gly Ser Leu Ser Val Ser Thr Asp Ser Gln Tyr Gly Ile
100 105 110

Arg Ser Pro Ser Pro
115

<210> 80
<211> 751
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Alpha-2-macroglobulin family Consensus Sequence

<400> 80
Ile Asp Glu Asp Asp Ile Thr Ile Arg Ser Tyr Phe Pro Glu Ser Trp
1 5 10 15

Leu Trp Glu Val Glu Glu Val Asp Arg Ser Pro Val Leu Thr Val Asn
20 25 30

Ile Thr Leu Pro Asp Ser Ile Thr Thr Trp Glu Ile Leu Ala Val Ser
35 40 45

```
Leu Ser Asn Thr Lys Gly Leu Cys Val Ala Asp Pro Val Glu Leu Thr
     50                  55                  60

Val Phe Gln Asp Phe Phe Leu Glu Leu Arg Leu Pro Tyr Ser Val Val
 65                  70                  75                  80

Arg Gly Glu Gln Val Glu Leu Arg Ala Val Leu Tyr Asn Tyr Leu Pro
                85                  90                  95

Ser Gln Asp Ile Lys Val Val Val Gln Leu Glu Val Glu Pro Leu Cys
            100                 105                 110

Gln Ala Gly Phe Cys Ser Leu Ala Thr Gln Arg Thr Arg Ser Ser Gln
        115                 120                 125

Ser Val Arg Pro Lys Ser Leu Ser Ser Val Ser Phe Pro Val Val Val
    130                 135                 140

Val Pro Leu Ala Ser Gly Leu Ser Leu Val Glu Val Val Ala Ser Val
145                 150                 155                 160

Pro Glu Phe Phe Val Lys Asp Ala Val Val Lys Thr Leu Lys Val Glu
                165                 170                 175

Pro Glu Gly Ala Arg Lys Glu Glu Thr Val Ser Ser Leu Leu Leu Pro
            180                 185                 190

Pro Glu His Leu Gly Gly Gly Leu Glu Val Ser Glu Val Pro Ala Leu
        195                 200                 205

Lys Leu Pro Asp Asp Val Pro Asp Thr Glu Ala Glu Ala Val Ile Ser
    210                 215                 220

Val Gln Gly Asp Pro Val Ala Gln Ala Ile Gln Asn Thr Leu Ser Gly
225                 230                 235                 240

Glu Gly Leu Asn Asn Leu Leu Arg Leu Pro Ser Gly Cys Gly Glu Gln
                245                 250                 255

Asn Met Ile Tyr Met Ala Pro Thr Val Tyr Val Leu His Tyr Leu Asp
            260                 265                 270

Glu Thr Trp Gln Trp Glu Lys Pro Gly Thr Lys Lys Lys Gln Lys Ala
        275                 280                 285

Ile Asp Leu Ile Asn Lys Gly Tyr Gln Arg Gln Leu Asn Tyr Arg Lys
    290                 295                 300

Ala Asp Gly Ser Tyr Ala Ala Phe Leu His Arg Ala Ser Ser Thr Trp
305                 310                 315                 320

Leu Thr Ala Phe Val Leu Lys Val Phe Ser Gln Ala Arg Asn Tyr Val
                325                 330                 335

Phe Ile Asp Glu Glu His Ile Cys Gly Ala Val Lys Trp Leu Ile Leu
            340                 345                 350

Asn Gln Gln Lys Asp Asp Gly Val Phe Arg Glu Ser Gly Pro Val Ile
        355                 360                 365

His Asn Glu Met Lys Gly Gly Val Gly Asp Asp Ala Glu Val Glu Val
    370                 375                 380
```

```
Thr Leu Thr Ala Phe Ile Thr Ile Ala Leu Leu Glu Ala Lys Leu Val
385                 390                 395                 400

Cys Ile Ser Pro Val Val Ala Asn Ala Leu Ser Ile Leu Lys Ala Ser
                405                 410                 415

Asp Tyr Leu Leu Glu Asn Tyr Ala Asn Gly Gln Arg Val Tyr Thr Leu
            420                 425                 430

Ala Leu Thr Ala Tyr Ala Leu Ala Leu Ala Gly Val Leu His Lys Leu
        435                 440                 445

Lys Glu Ile Leu Lys Ser Leu Lys Glu Glu Leu Tyr Lys Ala Leu Val
    450                 455                 460

Lys Gly His Trp Glu Arg Pro Gln Lys Pro Lys Asp Ala Pro Gly His
465                 470                 475                 480

Pro Tyr Ser Pro Gln Pro Gln Ala Ala Ala Val Glu Met Thr Ser Tyr
                485                 490                 495

Ala Leu Leu Ala Leu Leu Thr Leu Leu Pro Phe Pro Lys Val Glu Met
            500                 505                 510

Ala Pro Lys Val Val Lys Trp Leu Thr Glu Gln Gln Tyr Tyr Gly Gly
        515                 520                 525

Gly Phe Gly Ser Thr Gln Asp Thr Val Met Ala Leu Gln Ala Leu Ser
    530                 535                 540

Lys Tyr Gly Ile Ala Thr Pro Thr His Lys Glu Lys Asn Leu Ser Val
545                 550                 555                 560

Thr Ile Gln Ser Pro Ser Gly Ser Phe Lys Ser His Phe Gln Ile Leu
                565                 570                 575

Asn Asn Asn Ala Phe Leu Leu Arg Pro Val Glu Leu Pro Leu Asn Glu
            580                 585                 590

Gly Phe Thr Val Thr Ala Lys Val Thr Gly Gln Gly Thr Leu Thr Leu
        595                 600                 605

Val Thr Thr Tyr Arg Tyr Lys Val Leu Asp Lys Lys Asn Thr Phe Cys
    610                 615                 620

Phe Asp Leu Lys Ile Glu Thr Val Pro Asp Thr Cys Val Glu Pro Lys
625                 630                 635                 640

Gly Ala Lys Asn Ser Asp Tyr Leu Ser Ile Cys Thr Arg Tyr Ala Gly
                645                 650                 655

Ser Arg Ser Asp Ser Gly Met Ala Ile Ala Asp Ile Ser Met Leu Thr
            660                 665                 670

Gly Phe Ile Pro Leu Lys Pro Asp Leu Lys Lys Leu Glu Asn Gly Val
        675                 680                 685

Asp Arg Tyr Val Ser Lys Tyr Glu Ile Asp Gly Asn His Val Leu Leu
    690                 695                 700

Tyr Leu Asp Lys Val Ser His Ser Glu Thr Glu Cys Val Gly Phe Lys
705                 710                 715                 720
```

Ile His Gln Asp Phe Glu Val Gly Leu Leu Gln Pro Ala Ser Val Lys
725 730 735

Val Tyr Asp Tyr Tyr Glu Pro Asp Glu Gln Cys Thr Ala Phe Tyr
740 745 750

<210> 81
<211> 620
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
Alpha-2-macroglobulin family N-terminal region
Consensus Sequence

<400> 81
Arg Leu Leu Trp Leu Leu Leu Leu Leu Leu Leu Phe Phe Asp Ser Ser
1 5 10 15

Leu Gln Lys Pro Arg Tyr Met Val Ile Val Pro Ser Ile Leu Arg Thr
20 25 30

Glu Thr Pro Glu Lys Val Cys Val Gln Leu His Asp Leu Asn Glu Thr
35 40 45

Val Thr Val Thr Val Ser Leu His Ser Phe Pro Gly Lys Arg Asn Leu
50 55 60

Ser Ser Leu Phe Thr Val Leu Leu Ser Ser Lys Asp Leu Phe His Cys
65 70 75 80

Val Ser Phe Thr Val Pro Gln Pro Gly Leu Phe Lys Ser Ser Lys Gly
85 90 95

Glu Glu Ser Phe Val Val Val Gln Val Lys Gly Pro Thr His Thr Phe
100 105 110

Lys Glu Lys Val Thr Val Leu Val Ser Ser Arg Arg Gly Leu Val Phe
115 120 125

Ile Gln Thr Asp Lys Pro Ile Tyr Thr Pro Gly Gln Thr Val Arg Tyr
130 135 140

Arg Val Phe Ser Val Asp Glu Asn Leu Arg Pro Leu Asn Glu Leu Ile
145 150 155 160

Leu Val Tyr Ile Glu Asp Pro Glu Gly Asn Arg Val Asp Gln Trp Glu
165 170 175

Val Asn Lys Leu Glu Gly Gly Ile Phe Gln Leu Ser Phe Pro Ile Pro
180 185 190

Ser Glu Pro Ile Gln Gly Thr Trp Lys Ile Val Ala Arg Tyr Glu Ser
195 200 205

Gly Pro Glu Ser Asn Tyr Thr His Tyr Phe Glu Val Lys Glu Tyr Val
210 215 220

Leu Pro Ser Phe Glu Val Ser Ile Thr Pro Pro Lys Pro Phe Ile Tyr
225 230 235 240

```
Tyr Asp Asn Phe Lys Glu Phe Glu Val Thr Ile Cys Ala Arg Tyr Thr
                245                 250                 255

Tyr Gly Lys Pro Val Pro Gly Val Ala Tyr Val Arg Phe Gly Val Lys
            260                 265                 270

Asp Glu Asp Gly Lys Lys Glu Leu Leu Ala Gly Leu Glu Glu Arg Ala
        275                 280                 285

Lys Leu Leu Asp Gly Asn Gly Glu Ile Cys Leu Ser Gln Glu Val Leu
    290                 295                 300

Leu Lys Glu Leu Gln Leu Lys Asn Glu Asp Leu Glu Gly Lys Ser Leu
305                 310                 315                 320

Tyr Val Ala Val Ala Val Ile Glu Ser Glu Gly Gly Asp Met Glu Glu
                325                 330                 335

Ala Glu Leu Gly Gly Ile Lys Ile Val Arg Ser Pro Tyr Lys Leu Lys
            340                 345                 350

Phe Val Lys Thr Pro Ser His Phe Lys Pro Gly Ile Pro Phe Phe Leu
        355                 360                 365

Lys Val Leu Val Val Asp Pro Asp Gly Ser Pro Ala Pro Asn Val Pro
    370                 375                 380

Val Lys Val Ser Ala Gln Asp Ala Ser Tyr Tyr Ser Asn Gly Thr Thr
385                 390                 395                 400

Asp Glu Asp Gly Leu Ala Gln Phe Ser Ile Asn Thr Ser Gly Ile Ser
                405                 410                 415

Ser Leu Ser Ile Thr Val Arg Thr Asn His Lys Glu Leu Pro Glu Glu
            420                 425                 430

Val Gln Ala His Ala Glu Ala Gln Ala Thr Ala Tyr Ser Thr Val Ser
        435                 440                 445

Leu Ser Lys Ser Tyr Ile His Leu Ser Ile Glu Arg Thr Leu Pro Cys
    450                 455                 460

Gly Pro Gly Val Gly Glu Gln Ala Asn Phe Ile Leu Arg Gly Lys Ser
465                 470                 475                 480

Leu Gly Glu Leu Lys Ile Leu His Phe Tyr Tyr Leu Ile Met Ser Lys
                485                 490                 495

Gly Lys Ile Val Lys Thr Gly Arg Glu Pro Arg Glu Pro Gly Gln Gly
            500                 505                 510

Leu Phe Ser Leu Ser Ile Pro Val Thr Pro Asp Leu Ala Pro Ser Phe
        515                 520                 525

Arg Leu Val Ala Tyr Tyr Ile Leu Pro Gln Gly Glu Val Val Ala Asp
    530                 535                 540

Ser Val Trp Ile Asp Val Glu Asp Cys Cys Ala Asn Lys Leu Asp Leu
545                 550                 555                 560

Ser Phe Ser Pro Ser Lys Asp Tyr Arg Leu Pro Ala Gln Gln Val Lys
                565                 570                 575
```

```
Leu Arg Val Glu Ala Asp Pro Gln Ser Leu Val Ala Leu Arg Ala Val
            580                 585                 590

Asp Gln Ala Val Tyr Leu Leu Lys Pro Lys Ala Lys Leu Ser Met Ser
        595                 600                 605

Lys Val Tyr Asp Leu Leu Glu Lys Ser Asp Leu Gly
    610                 615                 620
```

<210> 82
<211> 186
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Sodium Bile acid symporter family consensus sequence

<400> 82

```
Ala Leu Gly Leu Phe Leu Met Met Phe Ser Met Gly Leu Lys Val Arg
  1               5                  10                  15

Phe Glu Asp Leu Lys Glu Ala Leu Arg Arg Pro Lys Ala Leu Ile Leu
            20                  25                  30

Gly Leu Leu Leu Gln Trp Ile Ile Met Pro Leu Leu Met Phe Ile Leu
        35                  40                  45

Ala Trp Leu Leu Leu Arg Leu Pro Pro Glu Leu Ala Thr Gly Leu Ile
    50                  55                  60

Leu Val Gly Cys Ala Pro Gly Gly Ala Met Ser Asn Val Trp Thr Tyr
65                  70                  75                  80

Leu Ala Lys Gly Asp Val Glu Leu Ser Val Val Met Val Ala Leu Ser
                85                  90                  95

Thr Leu Leu Ala Pro Leu Val Thr Pro Leu Leu Ser Phe Leu Leu Ala
            100                 105                 110

Gly Leu Leu Val His Val Asp Ala Val Ser Pro Trp Ser Leu Ile Lys
        115                 120                 125

Ser Val Leu Val Tyr Val Ile Ile Pro Leu Ile Ala Gly Met Leu Thr
    130                 135                 140

Arg Tyr Phe Leu Pro Glu Trp Phe Glu Gln Arg Val Leu Pro Val Leu
145                 150                 155                 160

Ser Pro Ile Ser Leu Ile Gly Leu Leu Leu Thr Ile Val Val Ile Phe
                165                 170                 175

Ala Leu Asn Gly Glu Val Ile Ala Ser Leu
            180                 185
```

<210> 83
<211> 191
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: SPFH domain/Band 7 family Consensus Sequence

<400> 83

```
Val Ala Leu Leu Ile Ile Ile Ala Leu Val Val Ile Ala Met Ser Val
  1               5                  10                  15

Lys Ile Val Lys Glu Tyr Glu Arg Gly Val Ile Phe Arg Leu Gly Arg
            20                  25                  30

Tyr Val Arg Gln Val Val Gly Pro Gly Leu His Phe Ile Ile Pro Phe
        35                  40                  45

Ile Asp Thr Val Lys Lys Val Asp Leu Arg Thr Val Val Tyr Asp Val
    50                  55                  60

Pro Ser Gln Glu Ile Ile Thr Lys Asp Asn Val Val Val Ile Val Asp
65                  70                  75                  80

Ala Val Val Tyr Tyr Arg Val Val Asp Pro Leu Lys Ala Val Tyr Glu
                85                  90                  95

Val Glu Asp Ala Glu Arg Ala Leu Pro Gln Leu Ala Gln Thr Thr Leu
            100                 105                 110

Arg Asn Val Ile Gly Gln Phe Thr Leu Asp Glu Ile Leu Thr Glu Arg
        115                 120                 125

Glu Arg Ile Asn Ser Gln Leu Arg Glu Ile Leu Asp Glu Ala Thr Asp
    130                 135                 140

Pro Trp Gly Ile Lys Val Glu Arg Val Glu Ile Lys Asp Ile Arg Leu
145                 150                 155                 160

Pro Glu Glu Val Gln Arg Ala Met Ala Ala Gln Met Glu Ala Glu Arg
                165                 170                 175

Glu Ala Arg Ala Lys Ile Leu Glu Ala Glu Gly Glu Gln Glu Ala
            180                 185                 190
```

<210> 84
<211> 160
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Prohibitin homologues Consensus Sequence

<400> 84

```
Ala Ala Phe Tyr Val Ile Gly Glu Gly Glu Arg Gly Val Val Glu Arg
  1               5                  10                  15

Leu Gly Arg Val Leu Lys Val Leu Gly Pro Gly Leu His Phe Val Ile
            20                  25                  30

Pro Phe Ile Asp Asp Val Lys Arg Val Asp Leu Arg Ala Gln Thr Asp
        35                  40                  45

Asp Val Pro Pro Gln Glu Val Ile Thr Lys Asp Asn Val Thr Val Ser
    50                  55                  60
```

```
Val Asp Ala Val Val Tyr Tyr Arg Val Leu Asp Pro Leu Lys Ala Val
 65                  70                  75                  80

Tyr Gly Val Leu Asp Ala Asp Tyr Arg Ala Leu Arg Gln Leu Ala Gln
                85                  90                  95

Thr Thr Leu Arg Ser Val Ile Gly Lys Arg Thr Leu Asp Glu Leu Leu
            100                 105                 110

Thr Asp Glu Arg Glu Lys Ile Ser Glu Asn Ile Arg Glu Glu Leu Asn
        115                 120                 125

Glu Ala Ala Glu Pro Trp Gly Ile Glu Val Glu Asp Val Glu Ile Lys
    130                 135                 140

Asp Ile Arg Leu Pro Glu Glu Ile Lys Glu Ala Met Glu Ala Gln Gln
145                 150                 155                 160
```

<210> 85
<211> 79
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Kringle domain Consensus Sequence

<400> 85

```
Cys Tyr His Gly Asn Gly Glu Asn Tyr Arg Gly Thr Ala Ser Thr Thr
  1               5                  10                  15

Glu Ser Gly Ala Pro Cys Gln Arg Trp Asp Ser Gln Thr Pro His Arg
            20                  25                  30

His Ser Lys Tyr Thr Pro Glu Arg Tyr Pro Ala Lys Gly Leu Gly Glu
        35                  40                  45

Asn Tyr Cys Arg Asn Pro Asp Gly Asp Glu Arg Pro Trp Cys Tyr Thr
    50                  55                  60

Thr Asp Pro Arg Val Arg Trp Glu Tyr Cys Asp Ile Pro Arg Cys
65                  70                  75
```

<210> 86
<211> 83
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Kringle domain Consensus Sequence

<400> 86

```
Arg Asp Cys Tyr Ala Gly Asn Gly Glu Ser Tyr Arg Gly Thr Ala Ser
  1               5                  10                  15

Thr Thr Lys Ser Gly Lys Pro Cys Gln Arg Trp Asp Ser Gln Thr Pro
            20                  25                  30
```

```
His Leu His Arg Phe Thr Pro Glu Arg Phe Pro Glu Leu Gly Leu Glu
         35                  40                  45

His Asn Tyr Cys Arg Asn Pro Asp Gly Asp Ser Glu Gly Pro Trp Cys
     50                  55                  60

Tyr Thr Thr Asp Pro Asn Val Arg Trp Glu Tyr Cys Asp Ile Pro Gln
 65                  70                  75                  80

Cys Glu Ser
```

<210> 87
<211> 230
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Trypsin-like serine protease Consensus Sequence

<400> 87

```
Arg Ile Val Gly Gly Ser Glu Ala Asn Ile Gly Ser Phe Pro Trp Gln
  1               5                  10                  15

Val Ser Leu Gln Tyr Arg Gly Gly Arg His Phe Cys Gly Gly Ser Leu
            20                  25                  30

Ile Ser Pro Arg Trp Val Leu Thr Ala Ala His Cys Val Tyr Gly Ser
        35                  40                  45

Ala Pro Ser Ser Ile Arg Val Arg Leu Gly Ser His Asp Leu Ser Ser
     50                  55                  60

Gly Glu Glu Thr Gln Thr Val Lys Val Ser Lys Val Ile Val His Pro
 65                  70                  75                  80

Asn Tyr Asn Pro Ser Thr Tyr Asp Asn Asp Ile Ala Leu Leu Lys Leu
                85                  90                  95

Ser Glu Pro Val Thr Leu Ser Asp Thr Val Arg Pro Ile Cys Leu Pro
            100                 105                 110

Ser Ser Gly Tyr Asn Val Pro Ala Gly Thr Thr Cys Thr Val Ser Gly
        115                 120                 125

Trp Gly Arg Thr Ser Glu Ser Ser Gly Ser Leu Pro Asp Thr Leu Gln
    130                 135                 140

Glu Val Asn Val Pro Ile Val Ser Asn Ala Thr Cys Arg Arg Ala Tyr
145                 150                 155                 160

Ser Gly Gly Pro Ala Ile Thr Asp Asn Met Leu Cys Ala Gly Gly Leu
                165                 170                 175

Glu Gly Gly Lys Asp Ala Cys Gln Gly Asp Ser Gly Gly Pro Leu Val
            180                 185                 190

Cys Asn Asp Pro Arg Trp Val Leu Val Gly Ile Val Ser Trp Gly Ser
        195                 200                 205
```

Tyr Gly Cys Ala Arg Pro Asn Lys Pro Gly Val Tyr Thr Arg Val Ser
210 215 220

Ser Tyr Leu Asp Trp Ile
225 230

<210> 88
<211> 217
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Trypsin Consensus Sequence

<400> 88
Ile Val Gly Gly Arg Glu Ala Gln Ala Gly Ser Phe Pro Trp Gln Val
1 5 10 15

Ser Leu Gln Val Ser Ser Gly His Phe Cys Gly Gly Ser Leu Ile Ser
20 25 30

Glu Asn Trp Val Leu Thr Ala Ala His Cys Val Ser Gly Ala Ser Ser
35 40 45

Val Arg Val Val Leu Gly Glu His Asn Leu Gly Thr Thr Glu Gly Thr
50 55 60

Glu Gln Lys Phe Asp Val Lys Lys Ile Ile Val His Pro Asn Tyr Asn
65 70 75 80

Pro Asp Thr Asn Asp Ile Ala Leu Leu Lys Leu Lys Ser Pro Val Thr
85 90 95

Leu Gly Asp Thr Val Arg Pro Ile Cys Leu Pro Ser Ala Ser Ser Asp
100 105 110

Leu Pro Val Gly Thr Thr Cys Ser Val Ser Gly Trp Gly Arg Thr Lys
115 120 125

Asn Leu Gly Thr Ser Asp Thr Leu Gln Glu Val Val Val Pro Ile Val
130 135 140

Ser Arg Glu Thr Cys Arg Ser Ala Tyr Gly Gly Thr Val Thr Asp Thr
145 150 155 160

Met Ile Cys Ala Gly Ala Leu Gly Gly Lys Asp Ala Cys Gln Gly Asp
165 170 175

Ser Gly Gly Pro Leu Val Cys Ser Asp Gly Glu Leu Val Gly Ile Val
180 185 190

Ser Trp Gly Tyr Gly Cys Ala Val Gly Asn Tyr Pro Gly Val Tyr Thr
195 200 205

Arg Val Ser Arg Tyr Leu Asp Trp Ile
210 215

<210> 89
<211> 79
<212> PRT

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Divergent subfamily of APPLE domains Consensus Sequence

<400> 89

Lys Ser Asp Asp Cys Phe Val Arg Leu Pro Asn Thr Lys Leu Pro Asp
1 5 10 15

Phe Ser Pro Ile Val Ile Ser Val Ala Ser Leu Glu Glu Cys Ala Gln
20 25 30

Lys Cys Leu Asn Ser Asn Cys Ser Cys Arg Ser Phe Thr Tyr Asn Asn
35 40 45

Asp Thr Lys Gly Cys Leu Leu Trp Ser Glu Ser Ser Leu Gly Asp Ala
50 55 60

Arg Gln Leu Leu Pro Ser Gly Gly Val Asp Tyr Tyr Glu Lys Ile
65 70 75

<210> 90
<211> 145
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Lipocalin/cytosolic fatty-acid binding protein family Consensus Sequence

<400> 90

Lys Phe Ala Gly Lys Trp Tyr Leu Val Ala Ser Ala Asn Phe Asp Pro
1 5 10 15

Glu Leu Lys Glu Glu Leu Gly Val Leu Glu Ala Thr Arg Lys Glu Ile
20 25 30

Thr Pro Leu Lys Glu Gly Asn Leu Glu Ile Val Phe Asp Gly Asp Lys
35 40 45

Asn Gly Ile Cys Glu Glu Thr Phe Gly Lys Leu Glu Lys Thr Lys Lys
50 55 60

Leu Gly Val Glu Phe Asp Tyr Tyr Thr Gly Asp Asn Arg Phe Val Val
65 70 75 80

Leu Asp Thr Asp Tyr Asp Asn Tyr Leu Leu Val Cys Val Gln Lys Gly
85 90 95

Asp Gly Asn Glu Thr Ser Arg Thr Ala Glu Leu Tyr Gly Arg Thr Pro
100 105 110

Glu Leu Ser Pro Glu Ala Leu Glu Leu Phe Glu Thr Ala Thr Lys Glu
115 120 125

Leu Gly Ile Pro Glu Asp Asn Val Val Cys Thr Arg Gln Thr Glu Arg
130 135 140

Cys
145

<210> 91
<211> 218
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Connexin
Consensus Sequence

<400> 91
Met Asp Trp Ser Phe Leu Gly Arg Leu Leu Glu Gly Val Asn Lys His
1 5 10 15

Ser Thr Ala Ile Gly Lys Ile Trp Leu Ser Val Leu Phe Ile Phe Arg
20 25 30

Ile Leu Val Leu Gly Val Ala Ala Glu Ser Val Trp Gly Asp Glu Gln
35 40 45

Ser Asp Phe Val Cys Asn Thr Gln Gln Pro Gly Cys Glu Asn Val Cys
50 55 60

Tyr Asp Gln Phe Phe Pro Ile Ser His Val Arg Leu Trp Val Leu Gln
65 70 75 80

Leu Ile Phe Val Ser Thr Pro Ser Leu Leu Tyr Leu Gly His Val Ala
85 90 95

Tyr Arg Val Arg Arg Glu Glu Lys Leu Arg Glu Lys Glu Glu Glu His
100 105 110

Ser Lys Gly Leu Tyr Ser Glu Glu Ala Lys Lys Arg Cys Gly Ser Glu
115 120 125

Asp Gly Lys Val Arg Ile Arg Gly Gly Leu Trp Trp Thr Tyr Val Phe
130 135 140

Ser Ile Ile Phe Lys Ser Ile Phe Glu Val Gly Phe Leu Tyr Gly Gln
145 150 155 160

Tyr Leu Leu Tyr Gly Phe Thr Met Ser Pro Leu Val Val Cys Ser Arg
165 170 175

Ala Pro Cys Pro His Thr Val Asp Cys Phe Val Ser Arg Pro Thr Glu
180 185 190

Lys Thr Ile Phe Ile Val Phe Met Leu Val Val Ser Ala Ile Cys Leu
195 200 205

Leu Leu Asn Leu Ala Glu Leu Phe Tyr Leu
210 215

<210> 92
<211> 59
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Src homology 3
domains Consensus Sequence

<400> 92
Glu Gly Pro Gln Val Arg Ala Leu Tyr Asp Tyr Thr Ala Gln Asp Pro
1 5 10 15

Asp Glu Leu Ser Phe Lys Lys Gly Asp Ile Ile Thr Val Leu Glu Lys
20 25 30

Ser Asp Asp Gly Trp Trp Lys Gly Arg Leu Gly Thr Gly Lys Glu Gly
35 40 45

Leu Phe Pro Ser Asn Tyr Val Glu Glu Ile Asp
50 55

<210> 93
<211> 57
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: SH3 domain
Consensus Sequence

<400> 93
Pro Lys Val Val Ala Leu Tyr Asp Tyr Gln Ala Arg Glu Ser Asp Glu
1 5 10 15

Leu Ser Phe Lys Lys Gly Asp Ile Ile Ile Val Leu Glu Lys Ser Asp
20 25 30

Asp Gly Gly Trp Trp Lys Gly Arg Leu Lys Gly Thr Lys Glu Gly Leu
35 40 45

Ile Pro Ser Asn Tyr Val Glu Pro Val
50 55

<210> 94
<211> 91
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Fes/CIP4
homology domain Consensus Sequence

<400> 94
Met Gly Phe Trp Ser Glu Leu Asp Asp Gly Phe Glu Ala Leu Leu Ser
1 5 10 15

Arg Leu Lys Asn Gly Leu Arg Leu Leu Glu Asp Leu Lys Lys Phe Met
20 25 30

Arg Glu Arg Ala Lys Ile Glu Glu Glu Tyr Ala Lys Lys Leu Gln Lys
35 40 45

Leu Ser Lys Lys Leu Arg Ala Val Arg Asp Thr Glu Ser Glu Leu Gly
50 55 60

Ser Leu Arg Lys Ala Trp Glu Val Leu Leu Ser Glu Thr Asp Ala Leu
65 70 75 80

Ala Lys Gln His Leu Gln Leu Ser Glu Asp Leu
85 90

<210> 95
<211> 94
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Fes/CIP4
homology domain Consensus Sequence

<400> 95
Met Gly Phe Gly Ser Glu Leu Cys Pro Glu Gly His Lys Ala Leu Leu
1 5 10 15

Ser Arg Gln Asp Asn Glu Leu Arg Leu Leu Glu Glu Met Lys Lys Phe
20 25 30

Met Ala Glu Arg Ala Lys Ile Glu Lys Glu Tyr Ala Gly Lys Leu Gln
35 40 45

His Leu Ser Ala Gln Val Gly Lys Gly Pro Ala Thr Ala Glu Gly Glu
50 55 60

Asp Glu Leu Ser Ser Leu Lys Ser Trp Ala Val Ile Leu Ser Glu Thr
65 70 75 80

Glu Gln Gln Ser Lys Ile His Leu Gln Ile Ser Glu Asp Leu
85 90

<210> 96
<211> 230
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Trypsin-like
serine protease Consensus Sequence

<400> 96
Arg Ile Val Gly Gly Ser Glu Ala Asn Ile Gly Ser Phe Pro Trp Gln
1 5 10 15

Val Ser Leu Gln Tyr Arg Gly Gly Arg His Phe Cys Gly Gly Ser Leu
20 25 30

Ile Ser Pro Arg Trp Val Leu Thr Ala Ala His Cys Val Tyr Gly Ser
35 40 45

Ala Pro Ser Ser Ile Arg Val Arg Leu Gly Ser His Asp Leu Ser Ser
50 55 60

Gly Glu Glu Thr Gln Thr Val Lys Val Ser Lys Val Ile Val His Pro
65 70 75 80

Asn Tyr Asn Pro Ser Thr Tyr Asp Asn Asp Ile Ala Leu Leu Lys Leu
85 90 95

Ser Glu Pro Val Thr Leu Ser Asp Thr Val Arg Pro Ile Cys Leu Pro
100 105 110

Ser Ser Gly Tyr Asn Val Pro Ala Gly Thr Thr Cys Thr Val Ser Gly
115 120 125

Trp Gly Arg Thr Ser Glu Ser Ser Gly Ser Leu Pro Asp Thr Leu Gln
130 135 140

Glu Val Asn Val Pro Ile Val Ser Asn Ala Thr Cys Arg Arg Ala Tyr
145 150 155 160

Ser Gly Gly Pro Ala Ile Thr Asp Asn Met Leu Cys Ala Gly Gly Leu
165 170 175

Glu Gly Gly Lys Asp Ala Cys Gln Gly Asp Ser Gly Gly Pro Leu Val
180 185 190

Cys Asn Asp Pro Arg Trp Val Leu Val Gly Ile Val Ser Trp Gly Ser
195 200 205

Tyr Gly Cys Ala Arg Pro Asn Lys Pro Gly Val Tyr Thr Arg Val Ser
210 215 220

Ser Tyr Leu Asp Trp Ile
225 230

<210> 97
<211> 217
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Trypsin
Consensus Sequence

<400> 97
Ile Val Gly Gly Arg Glu Ala Gln Ala Gly Ser Phe Pro Trp Gln Val
1 5 10 15

Ser Leu Gln Val Ser Ser Gly His Phe Cys Gly Gly Ser Leu Ile Ser
20 25 30

Glu Asn Trp Val Leu Thr Ala Ala His Cys Val Ser Gly Ala Ser Ser
35 40 45

Val Arg Val Val Leu Gly Glu His Asn Leu Gly Thr Thr Glu Gly Thr
50 55 60

Glu Gln Lys Phe Asp Val Lys Lys Ile Ile Val His Pro Asn Tyr Asn
65 70 75 80

Pro Asp Thr Asn Asp Ile Ala Leu Leu Lys Leu Lys Ser Pro Val Thr
85 90 95

Leu Gly Asp Thr Val Arg Pro Ile Cys Leu Pro Ser Ala Ser Ser Asp
100 105 110

Leu Pro Val Gly Thr Thr Cys Ser Val Ser Gly Trp Gly Arg Thr Lys
115 120 125

Asn Leu Gly Thr Ser Asp Thr Leu Gln Glu Val Val Val Pro Ile Val
130 135 140

Ser Arg Glu Thr Cys Arg Ser Ala Tyr Gly Gly Thr Val Thr Asp Thr
145 150 155 160

Met Ile Cys Ala Gly Ala Leu Gly Gly Lys Asp Ala Cys Gln Gly Asp
165 170 175

Ser Gly Gly Pro Leu Val Cys Ser Asp Gly Glu Leu Val Gly Ile Val
180 185 190

Ser Trp Gly Tyr Gly Cys Ala Val Gly Asn Tyr Pro Gly Val Tyr Thr
195 200 205

Arg Val Ser Arg Tyr Leu Asp Trp Ile
210 215

<210> 98
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: NOV5 Primer 1

<400> 98
ctcccactcc tgctgcttct gact 24

<210> 99
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: NOV5 Primer 2

<400> 99
aaggctgggc ctaacccagt ctcat 25

<210> 100
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: NOV7 Primer 1

<400> 100
catgaactgg gcatttctgc agg 23

<210> 101
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: NOV7 Primer 2

<400> 101
ttatctgctg atctcgcagg ttatgga 27

<210> 102
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: NOV8 Primer 1

<400> 102
ctgacaggcc ctggtgtgtg at 22

<210> 103
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: NOV8 Primer 2

<400> 103
tcacacatgt ttcatgtggg agttaga 27

<210> 104
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: NOV9 Primer 1

<400> 104
gagtgagagg tcggacagac tgtg 24

<210> 105
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: NOV9 Primer 2

<400> 105
actcatgcaa cttgcttctc tcactct 27

<210> 106
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: NOV10b Primer 1

<400> 106
cctatgagcc tgatgctgga tgac 24

<210> 107

<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: NOV10b Primer 2

<400> 107
aggactcaga ggagggagtc ctgag 25

<210> 108
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag4164 Forward

<400> 108
gcactacaag tggaagcctt ac 22

<210> 109
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag4164 Probe

<400> 109
ctcaagtaga agccgactta tgcaaa 26

<210> 110
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag4164 Reverse

<400> 110
tcaaatcctt ctgcgataca gt 22

<210> 111
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag1313b Forward

<400> 111
cagctgcacg attaatgaag at 22

<210> 112
<211> 25

<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag1313b Probe

<400> 112
aggtcttgga ctggccttca ccatt 25

<210> 113
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag1313b
Reverse

<400> 113
ccaaagttgt gtccagactc at 22

<210> 114
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag2197 Forward

<400> 114
ccaaggaaga cctcttcatc tt 22

<210> 115
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag2197 Probe

<400> 115
tcttgcttac ggcataagcg ctctct 26

<210> 116
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag2197 Reverse

<400> 116
ttcatttcta tgggacctca ga 22

<210> 117
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag708 Forward

<400> 117
aaagatggga ctcgtcatga c 21

<210> 118
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag708 Probe

<400> 118
cacgccatct tactgactgg tctgga 26

<210> 119
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag708 Reverse

<400> 119
gtgcaaatcc caaagtgtca 20

<210> 120
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag4164 Forward

<400> 120
gcactacaag tggaagcctt ac 22

<210> 121
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag4164 Probe

<400> 121
ctcaagtaga agccgactta tgcaaa 26

<210> 122
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag4164 Reverse

<400> 122
tcaaatcctt ctgcgataca gt 22

<210> 123
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag2197 Forward

<400> 123
ccaaggaaga cctcttcatc tt 22

<210> 124
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag2197 Probe

<400> 124
tcttgcttac ggcataagcg ctctct 26

<210> 125
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag2197 Reverse

<400> 125
ttcatttcta tgggacctca ga 22

<210> 126
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag2197 Forward

<400> 126
ccaaggaaga cctcttcatc tt 22

<210> 127
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag2197 Probe

<400> 127
tcttgcttac ggcataagcg ctctct 26

<210> 128
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag2197 Reverse

<400> 128
ttcatttcta tgggacctca ga 22

<210> 129
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag708 Forward

<400> 129
aaagatggga ctcgtcatga c 21

<210> 130
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag708 Probe

<400> 130
cacgccatct tactgactgg tctgga 26

<210> 131
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag708 Reverse

<400> 131
gtgcaaatcc caaagtgtca 20

<210> 132
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag1313b
Forward

<400> 132
cagctgcacg attaatgaag at 22

<210> 133
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag1313b Probe

<400> 133
aggtcttgga ctggccttca ccatt 25

<210> 134
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag1313b Reverse

<400> 134
ccaaagttgt gtccagactc at 22

<210> 135
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag1537 Forward

<400> 135
tttcaagaca ccctgtgata cc 22

<210> 136
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag1537 Probe

<400> 136
acttcgtgtc ctgaatgttc caggct 26

<210> 137
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag1537 Reverse

<400> 137
cagaggaatg aaggcataga tg 22

<210> 138
<211> 21

<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag2432 Forward

<400> 138
gtaggcaaag ggactcactg t 21

<210> 139
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag2432 Probe

<400> 139
cagaaatcaa taatctttga ctgccg 26

<210> 140
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag2432 Reverse

<400> 140
gcacattacg tggctgaga 19

<210> 141
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag1250 Forward

<400> 141
cgtggtgaac tctgccttat at 22

<210> 142
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag1250 Probe

<400> 142
cacagagctg tcgtctttga ccgatt 26

<210> 143
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag1250 Reverse

<400> 143
agtcccttg cctaccacaa t 21

<210> 144
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag3086 Forward

<400> 144
ggaccccatt cgactactgt 20

<210> 145
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag3086 Probe

<400> 145
ctgatgacca gccgccatca atc 23

<210> 146
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag3086 Reverse

<400> 146
ttctcaaact gcacctggtc 20

<210> 147
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag3797 Forward

<400> 147
tctggacgac aactattgcc 20

<210> 148
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag3797 Probe

<400> 148
atggtgctac actacggatc cgcag 25

<210> 149
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag3797 Reverse

<400> 149
gtcacagaat tctcgctcga 20

<210> 150
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag2439 Forward

<400> 150
tatcatcact tgtgatggca aa 22

<210> 151
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag2439 Probe

<400> 151
aaaaccgaga gcactttgaa aacaca 26

<210> 152
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag2439 Reverse

<400> 152
aaacttctct cccagggtac aa 22

<210> 153
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag2771 Forward

<400> 153
tgaacagaac tatgcgaaac aa 22

<210> 154
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag2771 Probe

<400> 154
tctggttaag aagtactgcc ccaaacg 27

<210> 155
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag2771 Reverse

<400> 155
ggctcttcat ctttggatga a 21

<210> 156
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag1674 Forward

<400> 156
ctcactcacc acaagggagt aa 22

<210> 157
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag1674 Probe

<400> 157
tgacatcaaa ctcaacagtt cccagga 27

<210> 158
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag1674 Reverse

<400> 158
gtctaggaga gagctgagca aa 22

<210> 159
<211> 78

<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PAN domain
Consensus Sequence

<400> 159
Cys Ser Ser Phe Val Arg Val Pro Gly Arg Ser Leu Ser Gly Asn Asp
1 5 10 15

Ile Ser Val Val Asn Val Pro Ser Leu Glu Glu Cys Ala Ala Leu Cys
20 25 30

Leu Glu Glu Pro Arg Val Cys Arg Ser Phe Thr Tyr Asn Asn Lys Ser
35 40 45

Lys Gln Cys Leu Leu Lys Ser Glu Ser Ser Gly Ser Leu Pro Arg Leu
50 55 60

Lys Arg Pro Ser Gln Lys Val Asp Tyr Tyr Glu Lys Ser Cys
65 70 75

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homologues Consensus Sequence

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Ser Val Trp Gly Asp Glu Gln Ser Asp Phe Thr Cys Asn Thr Gln Gln
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Pro Gly Cys Glu Asn Val Cys Tyr Asp Gln Phe Phe Pro Ile Ser His
20 25 30

Val Arg

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Asn Glu Gln Lys
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Asn His Gln Lys
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Asn Asp Glu Gln
1

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Gln His Arg Lys
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Met Ile Leu Val
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Met Ile Leu Phe
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